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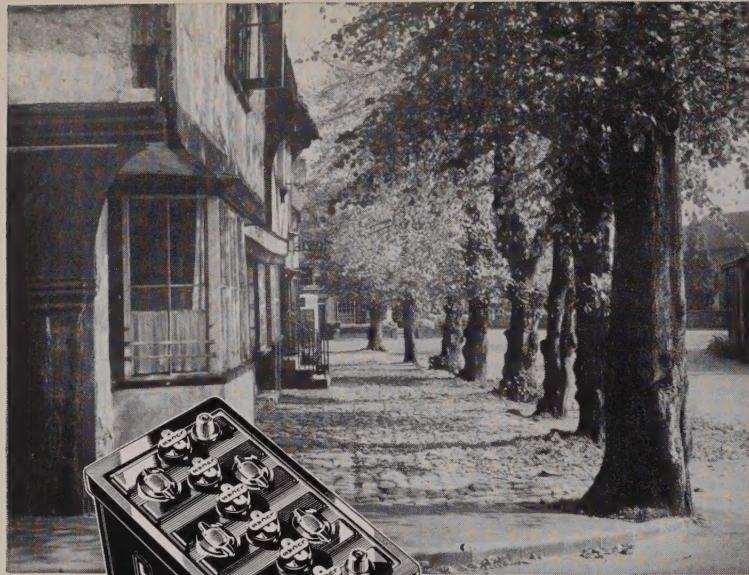
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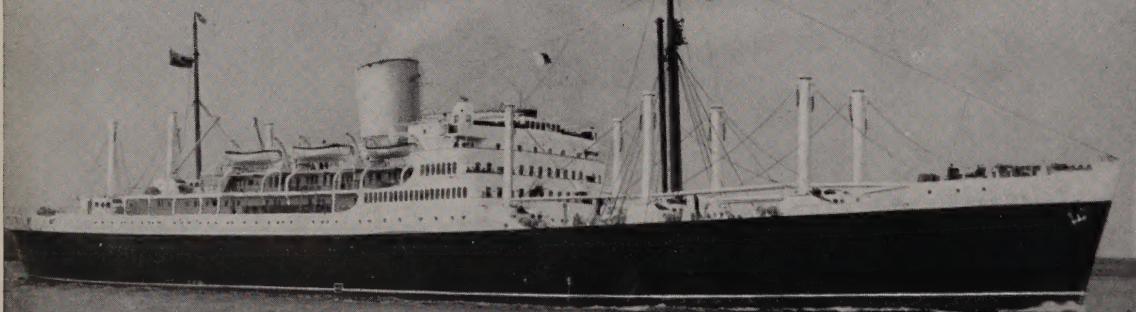
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Macao

by O. M. GREEN

With the growth of Asian nationalism, few European settlements on the coasts of Asia remain in European control. One of the oldest and least publicized is Macao, herein described by the Far Eastern Correspondent of the Observer, who was formerly Editor of the North China Daily News

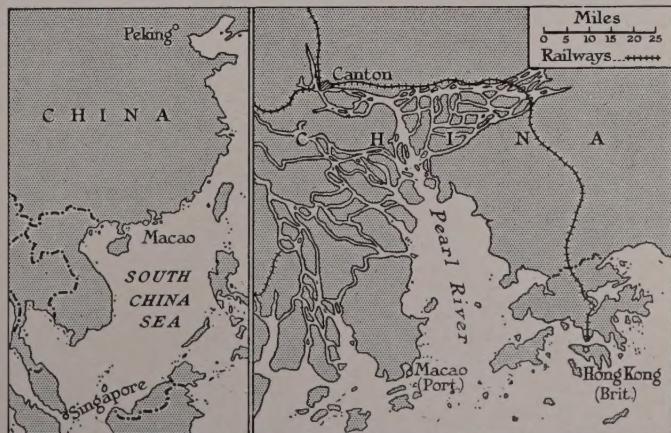
THE most curious feature of Macao is that, although it was a year old when our first Queen Elizabeth came to the throne, its existence as a Portuguese possession has never been seriously challenged by the Chinese. Storms that have blown against other foreigners have passed Macao by. The fury of Commissioner Lin against the opium merchants of Canton in 1839 left Macao unscathed, although the Portuguese were the first to bring opium to China and had been doing so for a century. The Nationalists' clamour against unequal treaties, the occasional screams of students that Hong Kong must be returned to China, held no note of enmity to Macao. Even the Communists seem content to let Macao be. For nearly four centuries this little peninsula, barely three miles long by a mile wide, hanging to the west bank of the Canton River's mouth by a thread of land picturesquely called "the Stalk of the Lotus", has been Portuguese and Portuguese it seems likely to remain. Even when it was temporarily occupied by the British Navy in 1802 and 1808 to prevent the French from seizing it, the Chinese protested strongly against anyone having Macao except the Portuguese.

Nobody knows how the Portuguese got it. Indirectly it grew out of the arrival at Canton of Fernando de Andrade in 1517. He was a courteous gentleman and was allowed to trade. His brother Simon, a very different character, went north and founded a colony at Ningpo, which through increasing wealth became so arrogant and unbearable that in 1545 the Chinese rose and massacred the lot. In the south, however, the Portuguese hung on to one or two small islands—it was in one of these, St John's, or in Chinese San Ch'uan, that St Francis Xavier, the greatest missionary since St Paul, died when only forty-six—and somehow in 1557 they established themselves in Macao.

Their own version is that they were granted it by Imperial Charter for helping to put down pirates; but if so, the charter has long ago vanished. The more generally believed story is that they bribed the Cantonese mandarins to let them settle in Macao. This would be quite in harmony with the later experience of other foreigners at Canton. It is worth notice, too, that in 1595 the Governor of Macao, writing to Lisbon, lamented that "to maintain ourselves here we must spend much with the Chinese heathen".

It is clear, however, that although the Portuguese had almost complete freedom in self-government, the Chinese continued to keep a grip on them for over three centuries. Macao paid a ground-rent of 500 taels (probably then about £100) to the Emperor; the Chinese collected Customs dues, licence fees for all ships proceeding to Canton; and once when the Portuguese tried to keep for trial in their own courts some criminals wanted by the Chinese, on the ground that they were converts who had taken refuge in a Macao church, they were forced, though protesting strongly, to surrender the men.

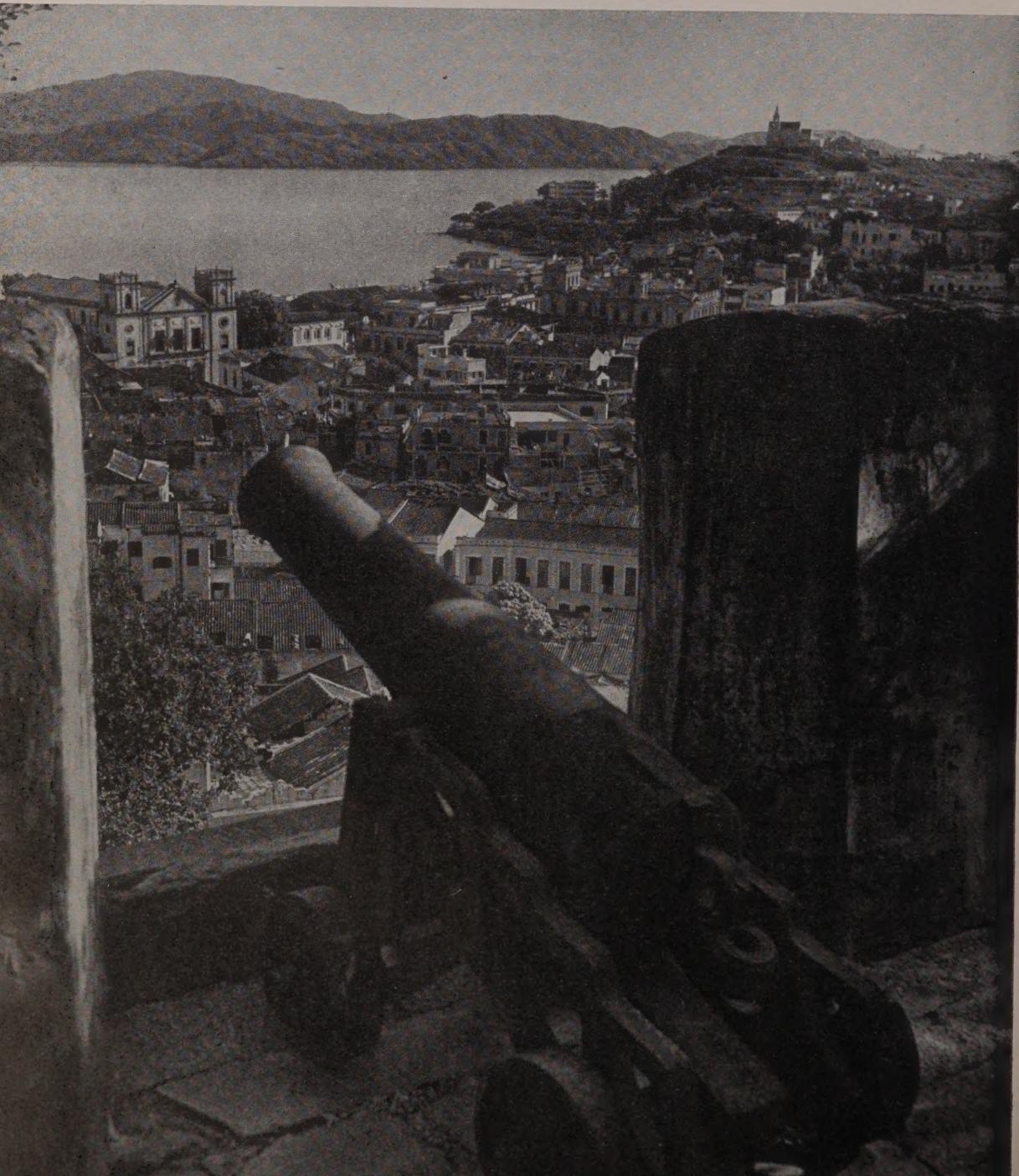
After the cession of Hong Kong to Great Britain in 1842 and when the Americans and French had extracted treaties from China on lines similar to the Treaty of Nanking, the Portuguese tried to get Macao put on the same footing as Hong Kong. But the Chinese had no idea of allowing them to creep in

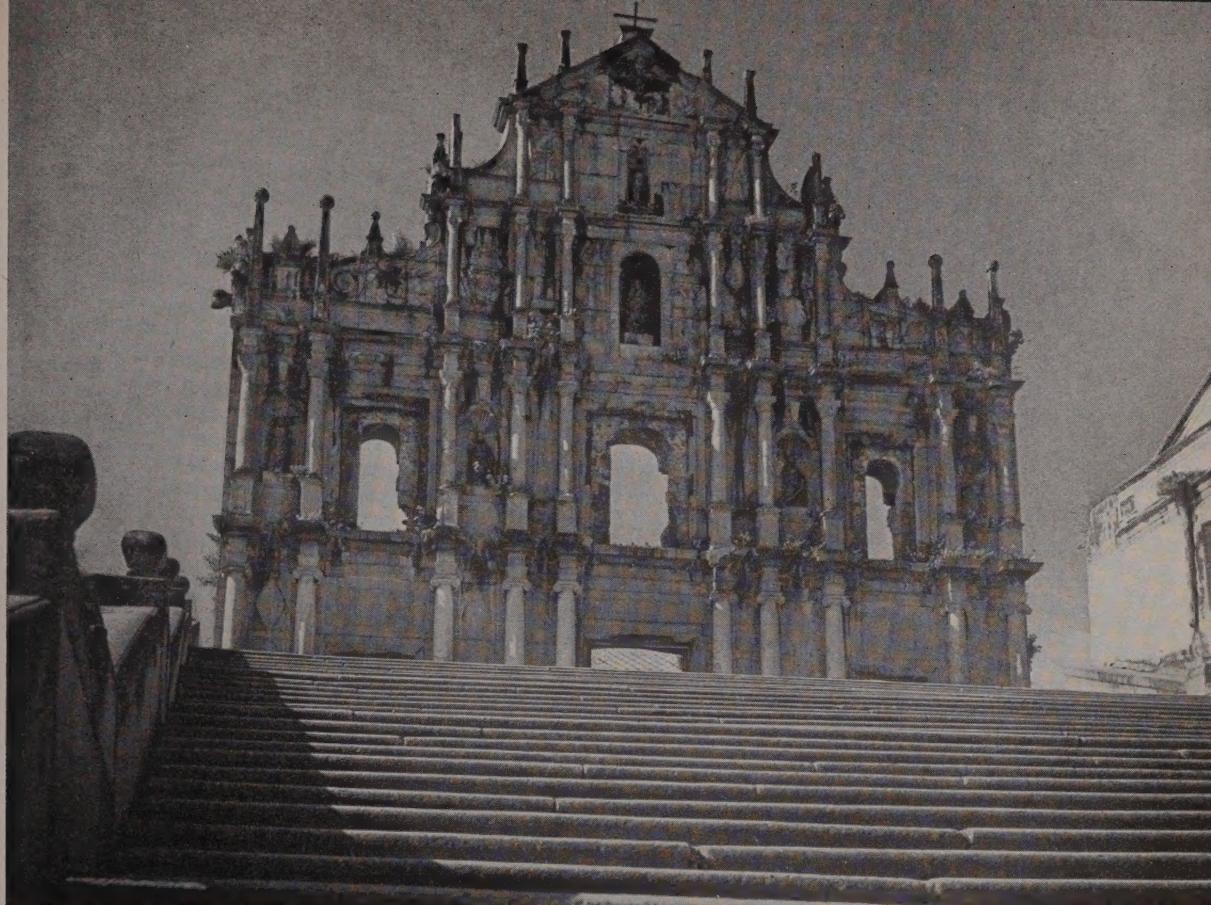


A. J. Thornton

For many years the Portuguese at Macao successfully kept out all trade rivals, chiefly by egging on the Chinese to expel them. But the Dutch made various attempts to establish themselves by persuasion or force, the final one being in 1627. This antique gun in the ancient fort above the city may have done good service, when the Portuguese defeated and drove off the invaders. From the fort there is a lovely view over Macao and the Canton (or Pearl) River

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A bishop was first appointed in Macao in 1580 and a great cathedral was erected on a dominating hill. But only the façade remains; the rest was burnt down in 1835 and never rebuilt—whether because of lack of funds, indolence or the multitude of other churches in Macao, who shall say?

under the skirts of greater Powers and the attempt failed. In 1845, however, an extremely masterful Governor came to Macao, Ferreira do Amiral who, on the sound principle that the Chinese listened to no argument but force, expelled all the Chinese officials, seized their Customs House and cut off the Emperor's ground-rent; and when the Viceroy ordered all Chinese to leave Macao and cease trade with it, do Amiral announced that any who did so would automatically lose all their property.

From Macao's point of view these tactics succeeded admirably. But do Amiral paid tragically for his boldness. On an evening in 1849 he was riding near the barrier between Macao and Chinese territory on the Stalk of the Lotus, when he was set upon by armed Chinese, murdered, and his head cut off and carried away, and an unsuccessful attempt was made to storm Macao. The scandal and indignation caused among all foreigners were so great and the Chinese lost so much face that the Portuguese were not further molested; and following up their moral vic-

tory, they eventually succeeded in 1887 in obtaining a treaty which recognized their inalienable possession of Macao.

That it took them nearly forty years, even after the wicked murder of do Amiral, to get the treaty is nowise surprising. Sir Robert Hart, the great Inspector-General of the Customs, used to say that, if he succeeded in introducing an innovation beneficial to China within ten years of proposing it, he thought he had done well. But the Portuguese would never have got the treaty—indeed the whole history of Sino-foreign relations in the 19th century would have been different and the Communists might not possess China now—if a K'ang Hsi or Ch'ien Lung had been on the throne. China had been rent by the T'aiping Rebellion, the Anglo-French occupation of Peking and the French war in Tongking; the Manchu dynasty was rapidly going down hill; and the Government had neither the nerve nor the physical strength to stand out against the importunate barbarian.

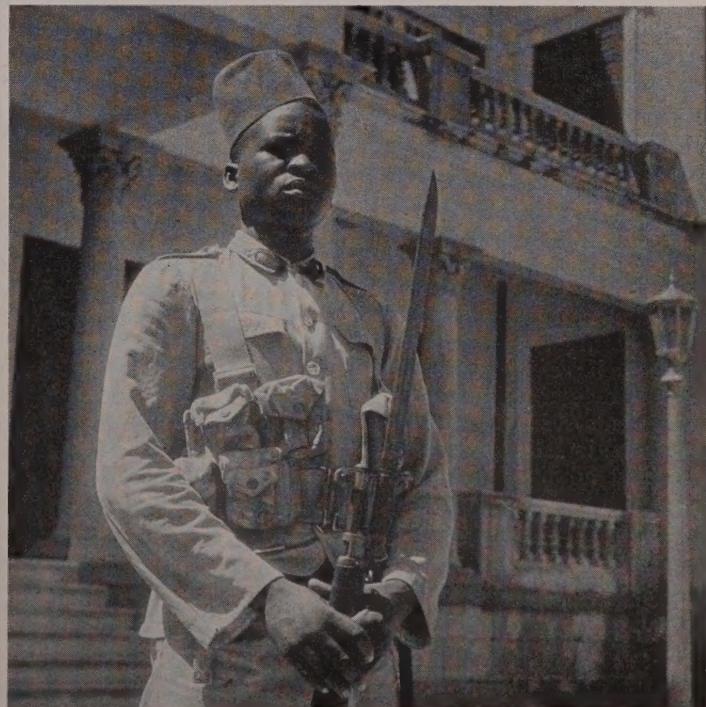
And here it may be said that it was not surprising that the Portuguese had been left



(Above) Across a tiny isthmus the Porto do Cerco separates Macao from Communist China. Gay with flowering shrubs and trees, it is a fairly animated scene as, though closed by barbed wire at night, there is a bus service through it by day. (Left) From the passenger quay there is a regular steam-boat service to Hong Kong thirty-five miles away where there is a considerable Portuguese community. Although the rise of Hong Kong in the middle of the 19th century killed Macao's trade, relations between them are friendly and their Governors exchange ceremonial visits



(Above) The imposing Government buildings which surround the statue of Colonel de Mesquita, "Saviour of Macao", seem very large for this small, drowsy colony. Colonel de Mesquita won his title by defeating the Chinese attempt to seize Macao after the barbarous murder of Governor do Amiral in 1849. (Right) De Mesquita had none of the smart black troops from Portuguese East Africa who may be seen guarding the Governor's palace. But Macao owes its survival less to force of arms than to Chinese tolerance and the Portuguese knack of getting on well with the Chinese





Deep verandas bear witness to Macao's semi-tropical climate. The shop-signs indicate the mingling of Portuguese and Chinese who number nine-tenths of the population and control most of the trade

for so long undisturbed in Macao, governing themselves by their own laws. Many small alien communities were dotted about China, paying tribute to the Emperor (as the Macao ground-rent was undoubtedly regarded in Peking) and governing themselves. It is only in comparatively recent times that extraterritoriality has been recognized as a slur upon China. In the view of the old mandarins it was the natural mark of the barbarian's inferiority, who, as one mandarin put it of the British, "are not worthy to be governed by the great maxims of reason".

Moreover Macao undoubtedly brought much wealth to the officials of Canton, both in regularized and irregular ways—the payments of blackmail to "the Chinese heathen" mentioned above. Chinese merchants were first admitted to live in Macao in the late 18th century and, as they have done wherever they spread in South-East Asia, they added greatly to its wealth. (Now the Chinese form over 90 per cent of the population; the Portuguese, excluding 6000 troops mostly from East Africa, number only about 8000.) But even before this the Portuguese must have flourished like the green bay tree, as one may

deduce from the layout of the beautiful Praya Grande stretching for a mile and a half along the edge of the harbour and shadowed by great banyan trees, the massive fortress on the hill, the remains of the towering cathedral, the Governor's stately palace. They held a monopoly of the distribution of rice, fish, lumber, silk, piece-goods, and to this monopoly they clung tenaciously.

In this the Chinese seem to have supported them, probably feeling that one lot of barbarians was quite enough. Somewhere in the 1570s Spanish adventurers arrived in the Canton River, and, at the instigation of the Portuguese, were promptly pushed out. The Dutch tried to establish themselves in 1603 and 1627; this led to battles in which the fortress mentioned above proved a stalwart defence: the Dutch were badly beaten and retreated to Formosa. Then in 1637 came the first Englishman, Captain John Weddell, with four ships: Charles I is said to have given his patronage to the venture. He forced his way to Canton, but the Chinese and Portuguese were too much for him and he left empty-handed. In the 18th century, however, foreigners from many nations were pressing

into the China trade so vigorously that further Portuguese resistance was useless.

Yet even after the inauguration of the famous Canton "factories"—not what the word usually means, but combined residences, offices and warehouses—covering a space by the river about 300 yards long by 200 deep, to which foreign traders were confined by an Imperial edict of 1757, Macao continued for many decades to do well. Apart from its share in trade, all incoming ships had to wait at Macao for permission to proceed to Canton and there were "invisible exports" in harbour dues, refittings, and the carousing of sailors after months of confinement on board ship at sea.

There were further invisible exports in the six months every year which the whole population of the factories had to spend in Macao; for, in theory, when the season's trade in tea, silk, etc. ended in May, they were supposed to return to their own lands, which of course were much too far to reach. The East India Company, which in those days did things in the most lordly style, maintained a magnificent house in Macao. When the merchants went back to Canton in the autumn, their wives, against whose admission the Chinese were adamant, remained and undoubtedly paid well for everything. In 1839 all the British community fled to Macao from the violence of Commissioner Lin, but the Chinese were so menacing that the Portuguese expelled the British, who took refuge in Hong Kong.

This expulsion, no doubt reluctant, for the Portuguese were a kindly people—in particular, though Roman Catholics, they freely allowed Macao to be used as a base by missionaries of other denominations, and it was there that Robert Morrison, the first British missionary to China, learnt Chinese—was ultimately the doom of Macao: as Hong Kong rose, Macao's prosperity fell. For a long time now its chief legitimate business seems to have been in fish and firework manufacture. Business was done 'on the side', in the disgraceful coolie traffic which was stopped in 1875; and in opium which by the influence of the League of Nations was cut to a tenth of its former volume.

Now, since dealings in gold were stopped in Hong Kong in 1948, the Macao Government and a group of speculators have made a great deal of money by smuggling gold in and out of China. Certainly until a few months ago an aeroplane arrived twice weekly from Bangkok loaded with gold. It seems odd that the Communists have not stopped

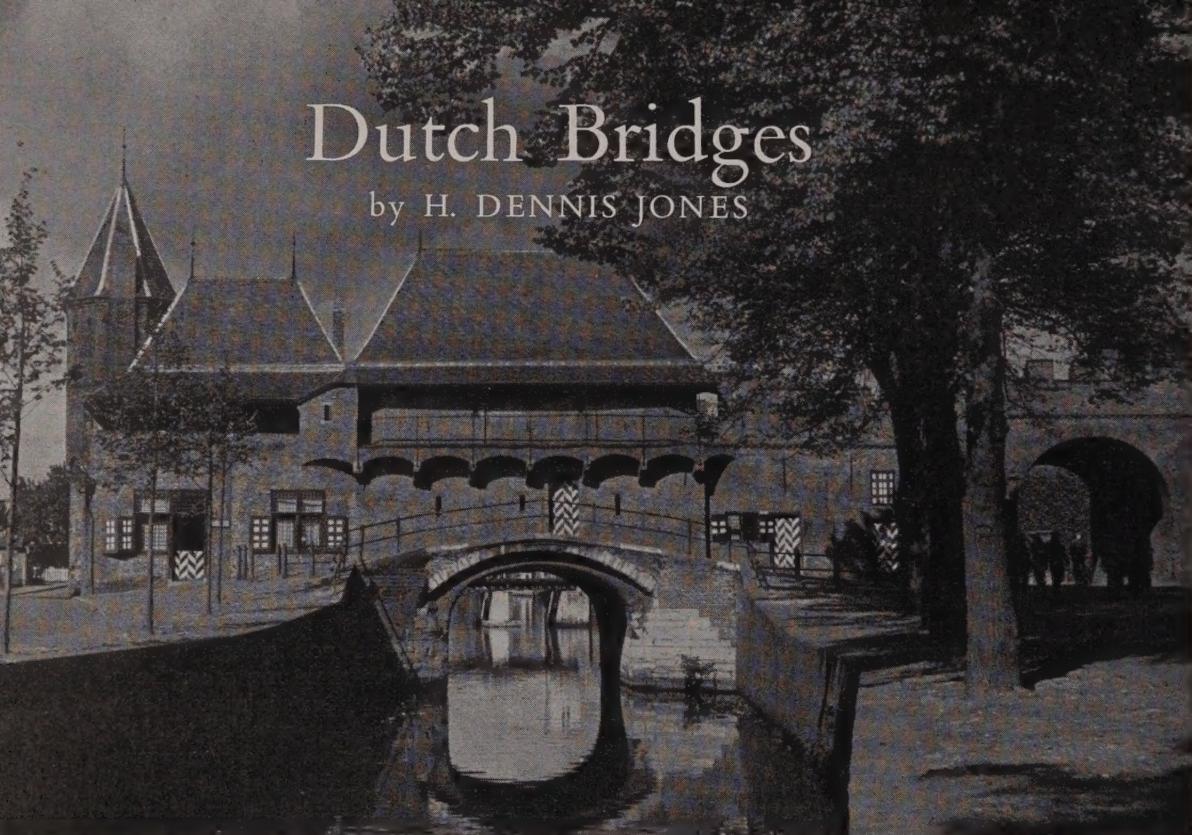
this business, at least as regards the outward flow of gold. There was naturally much excitement at the end of last July when the Portuguese guards at the Porto do Cerco clashed with the Communist guards and there was some desultory fighting for a few days. But the Portuguese apologized, promised compensation for the Chinese killed, and peace was restored. Possibly Macao is useful to the Communists as a channel through which to obtain some of the materials denied them via Hong Kong by the American ban on strategic materials.

Even the Communists, in whom some relic of the Chinese reverence for art and history must surely still linger, would hesitate to destroy anything so dreamlike, so other-worldly and so harmless as Macao. The climate is balmy and kind; the typhoons which rock Hong Kong though it is only thirty-five miles away seem, like the politicians, to have spared Macao. More than any other Europeans, the Portuguese have sunk into the indolent acquiescence in things which too long residence in Asia can bring. The great cathedral on the hill is an emblem of the pervading lotus atmosphere. For nothing of it remains but the façade; the rest was burnt down in 1835 and has never been rebuilt. There are no big ships in the harbour, it is too shallow for them, only painted junks and little rusty tramps. Some modern buildings have arisen, notably a garish eight-storey hotel, which is alleged to live chiefly by fantan—an important source of revenue as every Sunday visitors come over from Hong Kong to play (or at least they did) and return in the evening with wonderful tales of winnings—but never of losses.

A busy man suddenly exiled from the world and forced to live in Macao would feel in twenty-four hours that the monotony of the place would drive him mad. But he would not go mad. Soon he too would succumb to its unhurried peace, content to drift about the cobbled streets with their pretty pink and green and yellow houses; to ponder in the grotto where Camoens wrote his great epic, *The Lusiads*, and wonder what it is about, or by the grave of Chinnery, the eccentric painter genius who exiled himself to Macao in 1825, and wish for one of his pictures of old Canton. Black sentries drowse outside the Governor's palace; women gossip endlessly at doors; from within comes the tinkling of a guitar. Surely we shall meet Odysseus' sailors, with their pale faces and branches "of that enchanted stem", on the Praya Grande?

Dutch Bridges

by H. DENNIS JONES



To the men who centuries ago planned and built the noble cities of northern Holland land and water were usually equal elements. In fact, the route into a town by boat, as the ancient watergate of Amersfoort (above) shows, might well be more important than any approach by routes over the land

NO-ONE who advanced into Holland with the Allied troops in 1944 and who heard the all-too-frequent statement "The bridges are down" can have failed to realize how vital a part bridges play in the life of that country. The blowing-up of a culvert would involve a fifteen-mile detour; canals were blocked with the debris of fallen bridges; the railways were at a standstill; and until the Bailey bridge at Arnhem was built, the northern and southern halves of the country were completely cut off from each other.

In any country—Denmark, for instance—where land and water are closely intermingled, the bridges are bound to be of national importance. In Holland, where wide rivers dividing the country have to be crossed by road- and rail-traffic bound for Rotterdam and Amsterdam, by travellers on many routes between northern and western Europe, the great bridges have an international significance as well. The lesser bridges, too, play a peculiarly intimate part in the country's life and in its landscape.

There, as you travel through the land, you will find bridges of every sort, from tiny plank bridges linking almost every garden

gate with the main streets of many towns, to the huge steel structures spanning the Hollandsche Diep at Moerdijk, or the Waal at Nijmegen, towering high above the flat countryside, landmarks visible for miles around. Scores of little wooden drawbridges, mostly hundreds of years old, such as van Gogh made memorable, are still in daily use, even on busy roads in the centres of great towns. Alongside them you will find huge modern bascules or swing- or lift-bridges, whose hundreds of tons can be speedily moved by simply pressing a button. And before long you will realize the importance in this flat country not only of the bridges that carry road or railway over water, but also of those that carry rail over road—or vice versa—or even one road over another.

On nearly all these bridges the Dutch seem to have lavished a little of their national capacity for decorative building. Looking at, say, the Waal Bridge at Nijmegen, or one of the new cross-overs carrying a minor road across the motorway that now links Nijmegen to Arnhem, one feels that the Dutch have built their bridges not only to be used but also to be enjoyed.



All photographs, except one, by the author.

In many Dutch towns the old brick bridges (above) seem natural continuations of the canal retaining-walls. You can cross a dozen such bridges and hardly notice their existence; while elsewhere half the houses would be cut off if the little bridges (below) linking them to the streets were destroyed.





(Above) One of the many decorative bridges in the modern suburbs of Amsterdam: a wooden structure inspired by Japanese designs. (Below) The Magere Brug, or Narrow Bridge, joins parts of Amsterdam that were 'modern' nearly three hundred years ago: this is the traditional type of double drawbridge





If you travel by road in northern Holland, whether on foot, by bicycle, or by car, your almost permanent worry will be trying to beat the bridges; for boats nearly always have priority, however heavy road traffic may be. (Above and right) A modern variant of the traditional drawbridge, formerly built in wood but nowadays made also of cast-iron or reinforced concrete. That shown here and the 'Japanese' bridge opposite are among the hundreds in Amsterdam designed by Piet Kramer, architect to the Bridges Division of the Public Works Department since 1917





The Moerdijk railway bridge (above) and the road bridge (below), a few hundred yards apart, which cross the Hollandsche Diep are the longest in Holland. After their destruction in 1944, as before the first was built in 1868, two Dutch provinces could only communicate with each other by water



While the busy main road crosses the New Maas in the heart of Rotterdam by a double bascule, the railway uses a lift-bridge (right) which raises its span high above the masts of liners sailing up the river. The road bridge across the Maas at Grave (below), together with the great bridges of Nijmegen and Arnhem, is one of the points where northern and southern Holland are linked. It is moreover of considerable importance to international road traffic



(Left) Perhaps the most striking of all Holland's large bridges is that at Nijmegen. The steel curve of its centre span seems to be imitated, in concrete, in the crossover on the Arnhem-Nijmegen motorway (below) as in numerous other bridges all over the country



Flora and Fauna in the Congo National Parks

by TRACY PHILIPPS

The Scientific Institute of the Belgian National Parks was founded by King Albert of the Belgians. By his magnanimous wish and that of the Institute's President, Dr Victor van Straelen, its scientific work has been placed above national jealousies. Its Governing Body includes the International Commission of which the British members, appointed by the King of the Belgians, are Lord William Percy, the Hon. Sir Evelyn Baring and Mr Tracy Philipps, author of the present article

THE National Parks of the Belgian Congo are in at least three respects, taken together, almost unique.

First, the Parks were founded by King Albert for unimpeded observation and research, with an aim which is by statute exclusively scientific. This does not mean that the most scenic parts of the Parks are closed to through-passage of eventual tourism.

Secondly, the Parks were selected in areas generally unfruitful for human habitation. Most of the Parks were stony or otherwise barren ground or infested by tsetse, remote and almost uninhabited. Therefore there was little displacement of population and no reduction of essentially cultivable land.

Thirdly, the scientific siting of the Parks. Quite distinct from the numerous Congo Reserves for protection of beneficent birds, of fish and of other of the rarer animals, the three scientific observation posts, which the three groups of Parks provide, are wisely situated in each of the three different tropical atmospheric currents of the African continent. One Park is within the current from the Indian Ocean, another within the current from the Atlantic and another within that from the Nile.

Fourthly, just south of the line of the equator are the Kagera and south Albert Parks. Within the Albert Park are the east-west Birunga mountains, which lie athwart the more westerly of Africa's two north-south Rifts, and Lake Edward, a warm inland sea of 800 square miles. Especially since it has become a Nature Reserve, this lake shelters more wild life than almost any water in the world.

Within sight, immediately north of the equator line, is the 5000-metre (16,000-foot) range of the Ruwenzori whose foothills are set in steamy equatorial forest and whose steep summit is crowned by eternal snows. The botanical contrasts of tropical and alpine flora in juxtaposition within so curt a com-

pass offer a rare and precious field for scientific comparison and observation of the problem of the origin and movements throughout the ages of the flora of inter-tropical Africa. On the Belgian side of the massif, a zone of equatorial forest stretching almost from the shores of the Atlantic continues up to the alpine forest of the Ruwenzori. Owing to the abrupt ascent from the lowland, the forest at this point offers an almost unique ground of botanical observation where the forest is in close but amazingly contrasted continuity.

Moreover, the distribution and grouping of certain fauna are directly or indirectly dictated by the existence and location of certain pastures of strongly contrasted kinds. In this area, even the abrupt transfer of cattle from one valley to the next is sometimes mortal. Within the time-space limits, the lives of the fauna are ordered with great regularity and punctuality of place and time in which the flora plays a predominating part.

There is a regular and recognizable limit of space up to which each family of fauna will habitually permit their various suspected enemies to approach before flight.

Once that their danger-zone is broken through, not only elephant but a rat or snake is more apt to think advance-and-attack less dangerous than retreat-and-flight. The deciding factor will often be the nearness, size and nature of the surrounding flora.

These then are some of the preliminary and more obvious features and potentialities of the scientific research now in progress in the Belgian African National Parks in whose central group there have, since the World Wars, already been discovered, studied and described no less than 879 new forms of life previously unknown to science.

In addition to the scientific workers and observers permanently at work in each group of Parks, a team of scientists under a co-ordinating ecologist is now working on a long-

term plan in the Garamba Park of which the northern limits touch Anglo-Egyptian Sudan.

Mt Ruwenzori (5100 metres : 16,800 feet) is partly in British territory and partly within the nature preserves of the Belgian National Parks. Last summer Dr van Straelen, President of the National Parks Institute, responded generously to the appeal of a British geological expedition, led by Professor Kennedy of Leeds University, to explore for three months the whole massif of the Ruwenzori.

In writing of African flora, it is troublesome for the general reader to have to contend with a series of Latinized names. But, as most of the objects have no English name, the other alternative would be local African words which would be worse than the inter-

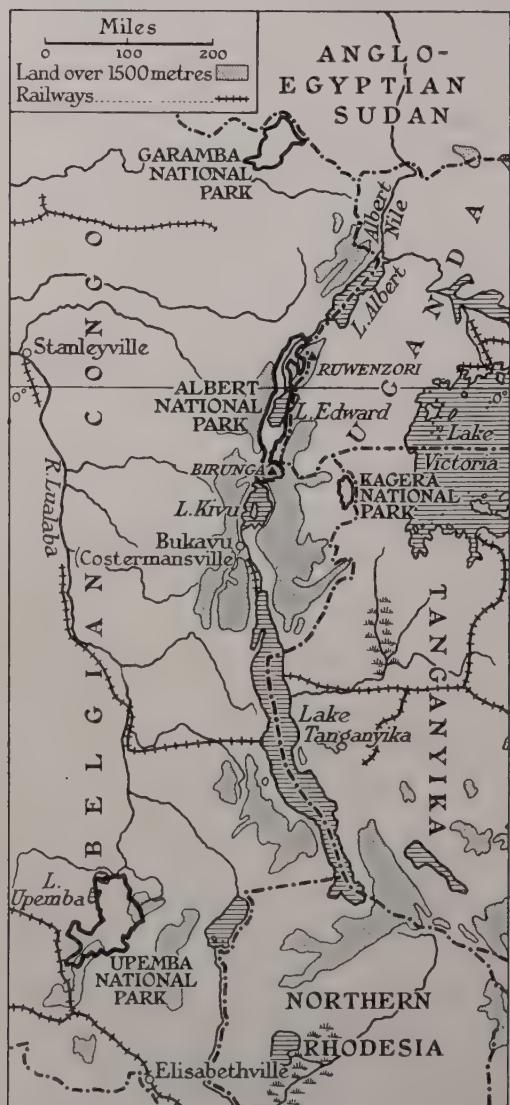
national scientific terms used here.

Through the ages, the annual burning of the bush and of all dry inflammable flora outside the limits of the abrupt walls of the wet equatorial forest, and the consequent clearing of pests, and the prompt appearance of a fresh if deteriorated pasture, attracts in due course the herds of game and domestic cattle to graze. Where the bush is not burned, it long remains dried, stringy and relatively tasteless, and grazing animals cease seasonally to frequent it.

My first visit to Lake Upemba was in search of the shoe-bill or whale-headed stork, *Balaeniceps Rex*. A journey of slow quiet observation through the rather stony uplands of the Upemba Park, of which the average altitude is rather below 900 metres, may in the southern season of rains seem to lack colour or floral contrast. But at the period of flowering, the grass savanna is bright and gay with *Haemanthus*, a bulbous plant with parasol-bunches of red ornamental flowers which show up against the general sombre green. Along the river Lupiala at about 700 metres the *Costus spectabilis* brightens the rather monotonous background of aquatic plant-life. Inland, on dry slopes of the hills, the ground is gay with *Thunbergia lancifolia*, a small plant with dark purple flowers. Along the river Senzé, at a normal average of 800 metres, herds of elephant roam the bush, now protected and unaggressive because unafeard.

In general, for African animals of the bush, the human animal represents the most cunning, best armed and most formidable foe. The elephant is not only the "Wittie beast" referred to by Leo the African (the Moorish slave of Pope Leo X). He is also by nature normally so timid that, when by his wit he perceives that he is crossing a man-made path, his inordinately short intestine can no longer contain his mass of odourless vegetal deposit for very fear. Thus it is upon human paths that these formidable deposits are most often seen. Indeed in the Garamba Park, where the aZandé-ized peoples used to hunt the elephant (on foot without firearms), their almost affectionate familiar name for him is *Baga-milé* or "Mister Dung-Basket".

In the Upemba and Albert Parks, herds of elephant which used to avoid the open short-grass country which affords no vegetal cover, now appear at their ease without fear of man. Their floral territories with special pockets of vegetation, containing for instance acacias and elephant-grass and papyrus, elephants are apt to defend against all comers such as





All photographs from the Institut des Parcs Nationaux du Congo Belge

G. F. de Witt

The Haemanthus, "a bulbous plant with parasol-bunches of red ornamental flowers", strikes a note of brilliant colour against the sombre setting of tall, waving Cyperus papyrus on Kasanga Island in the Lufira, a tributary of the Lualaba, 700 metres above sea level in the Upemba National Park herds of jealous choleric buffalo. The flora most often determines the elephants' distribution. The legend of elephants' hospitals and cemeteries, where these intelligent pachyderms are alleged to retire to die, is placed in growing doubt by the number of elephants which have been found in the Parks dead of natural causes. On the other hand, certain papyrus-swamps which conceal quaking-bog certainly bear a local repute of having engulfed small groups of elephants which have come to wallow or to bathe.

Florally, hungry herds of elephant in search of food are necessarily destructive creatures. Leo 'Africanus', born in Spain about 1492, observed that shrubs and "trees he overturneth with the strength of his back or breaketh them between his teeth. He standeth upright upon his hinder feete to browse upon the leaves and tender sprigs." Certain trees which here bear marks of the deep and steady boring by the tusks of elephants are not used, as is sometimes said, for sharpening the teeth. Indeed if allowed to become too thin and pointed, elephants' teeth would splinter or

crack in use under their hard and heavy tasks.

In all the Parks, a tree of which the abundant milky sap is a notorious poison, and is consciously used by Africans as such, is the candelabra-shaped *Euphorbia calycina*. Just as elephants can be seen feeding in common on certain kinds of thorny acacia, so one may see baboon-monkeys breaking off massive quadrangular arms of euphorbia and chewing and sucking the sap much as they crunch up sugar canes. And they are not poisoned.

Between 900 and 1500 metres up, around the Upemba Park, the Klipspringer is one of the more defenceless and most coveted kinds of game. The floral influence is the main factor which affords the Klipspringer a relative immunity and offers it some security in which to survive and multiply. In its chosen habitat, the Klipspringer, which outside the reproductive season tends to be a solitary animal, is most difficult to observe even at quite close quarters unless one almost stumbles upon him. A reason of his virtual invisibility is that he is seldom seen in silhouette. He is most often engaged in lying on guard over his female with

young among high blue-grey rock outcrops uncooled by breeze and almost too hot for the human hand. These gently sloping rocks are carpeted with a bright orange lichen against which the Klipspringer is nearly always immobile and invisible. In this lofty sentry-post, often above the scent-line, they lie unsniffed, unseen, unsensed by their most insidious enemies, the python and the leopard.

Around Lake Upemba, M. Verheyen has visually confirmed that lions eat wood. In the gallery-forests, these heavy meat-eaters dig out soft wet rotten wood and swallow it as ballast and a purge. Similarly many mammals, not excluding the elephant, are in the habit of eating earth. They disintegrate it from occupied, and therefore freshly impregnated, ant-hills, probably to satisfy their need for mineral salts.

The collation of such small observed facts, insignificant in themselves, are of much eventual value in working out the still obscure social relations of other than human animals to each other and to their living-space.

The fearless and aggressive Ratel *Mellivora capensis* is at all seasons particularly directed

by the flora. His staple diet ranges from rats to antelopes. But he loves to live among flowers. Above all he has a sweet tooth for honey. His thick bushy hide is resistant to bee-stings. He seeks to live among flowers, the flowers which enable the fierce African tree-bees to make the honey which he covets. He has a willing and active collaborator in a notorious public informer. This is a bee-eater, the bird *Indicator indicator* Linné. When the Indicator calls, even before the Ratel whistles his reply, all the beasts of the field are alert and disquieted. They prepare to leave the flowery field clear to this curious partner-pair who let no animals, short of pachyderms, stand in their way to an apiary.

As the observer of flora and fauna in the Upemba Park moves to a higher level, up to 1800 metres, he meets on the high savanna a bushy tree of about six feet high with ornamental white flowers which, especially at dawn and dusk, loom up suddenly and spectacularly against the dark dull-green background of the Park. This is *Protea madiensis*. The bee-eater *Indicator indicator* is apt to be found in its near neighbourhood.

In the Upemba Park, along the River Lupiala at a height of 700 metres, the Costus spectabilis "brightens the rather monotonous background of aquatic plant-life". It is a small stalkless plant with large leaves in a circle, from the centre of which rises a little group of golden flowers





G. F. de W.

Inland, eastward from Lake Upemba, the dry savanna slopes of the hills are the colour of sand and sage. But the ground is gay with Thunbergia lancifolia, a small plant with dark purple flowers

Coming northward from the flora of the Upemba, the features of the Albert Park which first meet the eye on each side of the equator-line are the Birunga range of east-west volcanoes blocking the western Rift Valley and, beyond them, the Ruwenzori "Mount of Rain", the legendary Nile-source Mountains of the Moon. Its foothills are set in the sultry Congo Forest over which, by short and steep gradation, stand its eternal snows. Beneath western Ruwenzori in that salient of the forest one sees great handsome equatorial trees such as the *Carapa grandiflora* and *Cynometra alexandrii*.

On the savanna floor of the Rift, far below the florally alpine ranges, are the euphorbias and odd clumps of the borassus palm *flabellifer*. Amid its harsh fan-shaped leaves are clusters of huge orange-coloured fruits. These are much sought by elephants which swallow whole the fruit whose seeds pass through the intestine intact and sow themselves hazard wherever the herd may move.

In this hot low savanna-zone constituted by the narrow enclosed cliff-walled sides of the Rift, there leap to the eye such spectacular flora as the large bright-red tufted flowers

of the then-leafless and sometimes 'sacred' thorn, *Erythrina tomentosa*, a Coral tree. Here too are the large orange-scarlet clusters of the Flame or Tulip tree *Spathodea nilotica* and, on the Ruwenzori side, spreading from the adjacent floral province, its variety *Spathodea campanulata*. Between the two alpine ranges of the Ruwenzori and the Birunga is the inland sea of the Edwardianza or lake, called *Ruitta-nzigé* or "locust-killer", so vast that flighting locusts fail to reach the opposite shore.

On its southern side are the marginal bushy Ambatch trees *Herminiera elaphroxylon* brightened by the topsy-turvy nests of chattering weaver-birds. On its eastern rim the shore is more commonly covered by the familiar *Cyperus papyrus*, which in Europe existed only in one river of Sicily.

Part of the southern shore is constituted by an odourless vegetable mass of hippo-droppings. It is backed by a lacustrine herbage of *Pogonarthria squarrosa* over which fish-eagles often poise, and by *Pennisetum purpureum*. On the drier floor of the Rift are carnivorous plants such as the insect-eating Sundew *Drosera madagascar*.

Elephants among acacias near the Lufira River. Elephants are sometimes found in the Parks dead of illness or of age. The story of elephants' cemeteries is unlikely, but if sick or feverish and weak they tend to enter favourite swamps or rivers to cool themselves or drink and may then drown

On the ascent from the sweltering heat of the blocked and enclosed Rift, up the abrupt but unaccidented lower slopes of the Birunga and the Ruwenzori, the European is at once struck by the frequency of familiar plants and flowers which he seldom sees wild elsewhere in the African tropics.

Here are clovers such as *Trifolium subrotundum*, buttercups like *Ranunculus oreophytus*, geraniums such as *G. aculeolatum*, violets like *Viola eminii*, and barriers of giant brambles and beds of nettles higher than a man's head as if they had sprouted on Wells' monstrous and legendary Food of the Gods. In the flora, specific differences which have slowly evolved in this environment show that their connection with their long-lost northern neighbours dates from ancient time, perhaps from a glacial age since a recession of the ice.

The maximum rain-zone is in the low mountain forest. The dim twilight forests of tree-bamboo do not generally begin until over 2500 metres. These are cold, clean and clear of undergrowth. The bamboo-leaves form a deep carpet. In the eastern Birunga, small herds of pygmy-elephant are ever pursued by

nomad pygmy-men with bows and arrows and javelins.

Already at 1800 metres in the ravines of the mountain-forests are the massive blocks of tree-ferns *Cyathea manniana* Hook. In the bamboo-forest, according to season, are the mountain buffalo and the mountain gorilla *beringei*.

Man is represented by the hunting baTwa pygmies. Although in these regions a mimic war still persists between the pygmies and the cranes, there is truce between pygmies and gorillas. From man the gorilla has little to fear. Occasionally women of the foothill-villages have been molested by these anthropoids. But the high gorilla-casualties are mainly due to the slinking snatch of their young by marauding leopards whose droppings betray the kill, or from an adventurous pair of high-roving lions. Once indeed, in the saddle between Mt Mgahinga and Mt Sabinyo, where three empires formerly met and the Park begins, I came at dawn upon a lioness and a full-grown female gorilla held fast in deadlock.

In our tents in the dark we had heard close





G. F. de Witte

As the traveller climbs up from the warm papyrus-swamps of Lake Upemba towards the Mitumba range and the Kibara hills on the eastern horizon, he sees at about 1500 metres on the high savanna a striking bushy shrub of about six feet high: *Protea madiensis*. At dawn and dusk its large white flowers loom suddenly and spectacularly against the somewhat dull green background



J de Heinzelin

Ascending the Ruwenzori "Mountains of the Moon", and emerging struggling through the dense elephant-grass as thick as a thumb and some twelve feet high, the climber enters at an altitude of 1800 metres a forest of tree-ferns taller than man-height. The uneven and saturated undergrowth is intersected by deep concealed ice-cold streams from the perpetual snows



J. de Heinzelin

In the sub-alpine zone (2500 to 3700 metres) of these equatorial mountains are forests of tree-heaths or heathers with trunks three feet round. From their upper branches hang swaying filaments of lichen. (Below) Here the undergrowth is knee-deep with bright-coloured mosses and sphagnum on peaty morasses

J. de Heinzelin





J. de Heinzelin

On Birunga's alpine zone the tree-groundsels run to thirty feet high. Encrustations of dead leaves give their upper trunks a bottle shape of bulging pillars. The twenty-foot branchless obelisks of giant lobelias have purplish flowers. Gorillas rip open their stems and crunch them

by the shaking roar of an angry lion and the resonant drumming chest-challenge of a big gorilla. In the rare and classic battle of this frosty glade, the bodies were not yet stiff. The gorilla had strangled the lion whose neck was twisted round, and the lion had torn open the gorilla's throat.

On my first visit to the high bamboo, I was amazed in such solitude to hear in the near distance what sounded like periodic fusillades of rifle fire. It was only after several days that it became apparent that the staccato sound was due to the passage of elephant through the close tree-bamboos which crack and snap as the herd forces it way on.

Through the lower forests of the volcanoes steals that floral addict, the sad-voiced vegetarian cat, a civet. In the forest clearings on moonlight nights, it can sometimes be seen picking up fruit of the wild-fig tree or munching the bitter wild red banana *Musa enseié*.

Another forest denizen, whose watchful fade-out face peers down at strange sights and strangers in a manner reminiscent of the Cheshire Cat, is not a feline. It is the *Galago* Bush-Baby, classed between the insect-eaters

and the monkey tribe. After solemnly peering down from the leaves, its face slowly fades out and it leaps loftily from branch to branch so that one can see only its flying comet-tail. At nights among the still but echoing bamboos, its low whimpering swells into a blood-curdling and piercing hollow wail. It is classed among the *lemures* which, for the Romans, were the visible and audible phantoms of the dead.

At the bamboo level, the most common monkey is the graceful golden *Cercopithecus Kandti*. One may see an occasional chimpanzee, howling or coughing nervously down from his nest-observatory on tall trees free of all lower branches.

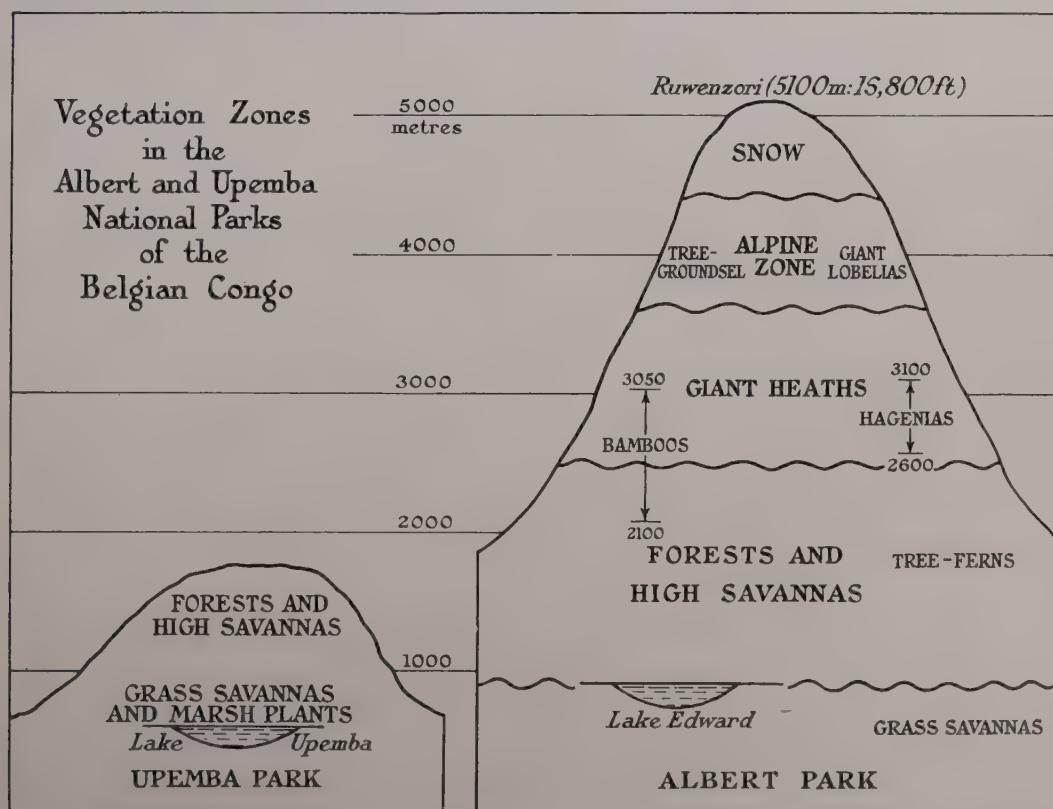
Whether on the afforested volcanoes such as Muhavura or upon the snow-crowned Ruwenzori, the next floral stage between 2600 and 3100 metres is that of the *Hagenia*. There the woodland is fairly clear of tangled under-growth. The bark of the *Hagenia* is of the colour of a *vin rosé* and hangs down in long leathery lanyards. The leafage is of a glaucous green and lets in ample light. On its branches, on which are occasional orchids, there hang

swinging cloths of grey-green moss and ferns. The herbal carpet is generally of small shady perfumed plants, including a *Trifolium*. On sunny days, chameleons move along the branches. The vegetation seems to attract also the Turaco *Ruwenzor-ornis Johnstoni Kivuensis*, and at least two kinds of wood-pecker.

On the eastern volcanoes of the Birunga (*runga*, which periodically 'boil' or simmer) is the middle passage preferred by the beringei gorillas. Although they will not despise with their vegetables the meat of an occasional golden-vole, these mountain gorillas' subsistence is wholly dependent on their floral environment. They feed mainly upon celeries and fruits and the succulent young bamboo shoots in their season. Their needs and appetites are substantial. They are nearly six feet in height. One dead man-gorilla I measured was 72 inches across the chest and 17 inches round the forearm. They are no longer habitual tree-dwellers like the chimpanzee, and they have now developed most of the muscles that enable man to stand upright. They are ingenious enough to use an extension for their limbs in the shape of a forked stick to get at fruits otherwise beyond their reach. It is mainly from the supple

springy bamboo that the gorillas manufacture a spring-mattress on which to recline or sit to protect themselves against the cold soaking spongy earth near the trees under which they are apt to huddle at nights or seasonally during the violent storms. Their inventive evolution would appear to be gradually developing. In mid-March in a storm at the summit of Mt Muhavura (4127 metres : 13,400 feet), in the fleeting snow which flecked their dark brown backs, moving semi-erect and leaning their hands upon the rocks, nine of these formidable anthropoids seemed to me to be Abominable Snow Men indeed.

On the Ruwenzori and on the volcanic massifs of the Birunga, the sub-alpine zone (2500 to 3700 metres) of the tree-heaths often lacks continuity. The heaths appear less in continuous forest-form than in massive islands of special flora. Therefore light penetrates more freely, undergrowths are more developed and giant mosses appear. The branches of the tree-heaths, *Erica* and *Philippia*, are covered with non-parasitic lichen-overgrowths. These hang down in long exuberant filaments and belong to the genus *Usnea*. The undergrowth with which the soil is covered forms a thick carpet of sphagnum and of mosses soaking in water—peaty morasses







The bamboo-covered slopes (opposite) of the volcanoes of the Birunga range in the south Albert Park are inhabited by gorillas and pygmies, though neither are confined to the bamboo zone: life on each volcano differs according to the growth of vegetation, which depends on the time it has been extinct

J. No

R. P. Schumac



into which man sinks deep.

Among the heaths are growths of similar maintenance, such as *Hypericum* and *Rapanea*. Among the undergrowth are ferns and orchids. Towards the higher level of the zone of heaths appears a bramble *Rubus Goetzeni* with rose-coloured flowers and large black fruit of pleasing taste and much sought by gorillas. In this lofty zone of tree-heaths, de Witte knows of no other resident reptile than a chameleon (*Graneri*).

British readers will not be insensitive to the tribute paid by the Belgian Institute of National Parks to Mr Winston Churchill. In the sub-alpine zone of Ruwenzori at about 3000 metres Drs Robyns and Boutique have discovered a bold and hardy golden-flowering rock-plant, a *Sedum* now named *Churchillianum*. Its roots are set high up on the flanks of the Anglo-Belgian Mountains of the Moon. Found in a rarefied atmosphere, it is a perennial plant of high level. Professor Robyns describes his *Churchillianum* as "*Un petit frutex succulent*". In Europe, in the Belgian Botanical Gardens, it has not yet been induced to flower. It remains to be learned whether Mr Churchill's own specimen, presented by the Institute, has been more sympathetic to its namesake's care.

Climbing up into the alpine zone (above 3600 metres), the most striking of the characteristic flora are the tree-groundsels which at this altitude develop fully and form veritable forests. On the west and northwest of the Ruwenzori above 4000 metres, the tree-groundsel *Senecio Stanleyi* is of a candelabra formation. It can be observed in flower in August. It reaches a height of 20 to 23 feet. At an altitude of 4300 metres in the Butahu valley of Ruwenzori the young plants of *Senecio Frieriorum*, whose bloom rather resembles a big tobacco-flower, can be seen pushing up from beneath the lower snow.

The giant lobelia is characteristic of this Congo-Nile alpine zone. On the Ruwenzori and on some of the Birunga volcanoes, the gaunt branchless pylon of this lobelia reaches to 16 feet in height, more especially if set in peaty marsh. The colouring of the flowers varies between a purple and a Prussian blue.

In the alpine zone the arid slopes are often carpeted with sweet-smelling everlasting with silvery blooms. On such a broken terrain considerable caution is required in moving. It was on the alpine snow-line of Ruwenzori that I fell far into a rocky crevasse concealed by clumps of lobelia and everlasting, a fall which entailed two years of enforced inactivity.

Europeans who, on the Birunga, have climbed up into the alpine zone, to these animist Africans' Olympus set in alpine tropics clear above the clouds, find pygmy men who live chasing pygmy elephant and ponderous anthropoids which roam picking fruits and celery among forests of gnarled groundsel trees, while at night the heavens are lit by fitful fires and the lurid glow of a volcano. To such curious and adventurous Europeans, the scene is apt to recall some spacious Cloud Cuckoo Land or a preconceived conception of Mountains of the Moon.

In the tropics where, in plant-life, the tempo of cause-and-effect tends to be more rapid and more readily observable, a next step in observation on research can, in the interests of world-food and agriculture and towards the repair of man's ravages, discover and utilize the plants which kill their own pests. The Institute's scientists now at work in the Congo Parks are learning more of the processes by which natural insecticides, absorbable by a plant, can develop in it and render it toxic to its attackers.

Moreover, wide areas of the world's impoverished and no-longer-useable pastures are not altogether beyond repair. In those parts of research-reserves, such as these Congo National Parks, from which the artificial influences of man and his domestic animals have been removed, skilled observation and experiment can show whether, and how, human action can stimulate Nature's own self-healing processes and thus regenerate a valuable vegetation.

In the scientific administration of the Parks, there is no lack of realization that long-term aims cannot be achieved without a background of proper perspective, such as is imposed upon us by the disciplines of geology and astronomy.

If the geological billion-year-old history of the earth could, for ready reference, be shrunk, like a Peruvian head retaining recognizable features, into the space of a year from a 1st of January, we should more easily perceive that man has only been keeping records of his observations of the earth for something less than two minutes before midnight on the last day of the year.

The observations of recurrent cycles, which may reveal several riddles of the universe which surrounds us and shapes our ends, cannot be improvised or interpreted in the brief life of an individual observer. These are long-term projects of continuity of which the Parks' Institute, of still modest dimensions, is a conscious and constructive part.

The Unbroken Road

by GEOFFREY DUTTON

The emphasis of geography, following Sir Halford Mackinder's famous definition, is more often upon "the interaction of man in society and so much of his environment as varies locally" than upon the similarities of natural patterns that repeat themselves. The author on his long journey encountered both differences and similarities but was more impressed by the latter, "those ties between countries that bind the earth together", especially the close ties of our common human experience. A full account of the journey, A Long Way South, is about to be published by Chapman and Hall

THE world never seems more complicated than when you plan a long journey: a car trip to Australia, for instance. Europe, the Middle East, Asia—their countries pile up barriers of language and politics against your passage. The Iron Curtain sends you on a dogleg to Turkey, the oil dispute in Persia threatens to make you avoid that country altogether. Yet gradually the passports are filled with visas, the car's wheels touch the soil of France, and you find that there is an unbroken road stretching before you to Colombo. Unbroken, that is, in contiguity if not in surface, for there are no tarred roads in Afghanistan, and few good ones in the other countries along the way. The sea bars you three times: at the English Channel, at the Bosphorus, and finally at the Indian Ocean which it takes a week to cross from Ceylon to Western Australia.

My wife and I drove from London to Adelaide in four months, from May to September, from spring to spring, from apple blossom in Kent to the wildflowers of Western Australia. Even the seasons contrived to remind us of the world's wholeness and roundness, of all those ties between countries that bind the earth together like the endless web of movement that connects the rivers, seas and oceans of the world.

Roads themselves usually reflect the character of the country which made them; and although there is a unity in their purpose there are differences in their expression of this purpose. Our journey began with the practical elegance of the lovely tree-lined *routes nationales* of France, then continued with the efficiency of the *autobahn* and *autostrada*, ruthless in their dissection of the landscape as only the work of a dictator could be. In Yugoslavia we first met the roads of poverty and remoteness, stone roads twisting through mountains and decaying into mud, being closer to the donkey and the horse than the motor-car. In Greece the Allies made a tarred road from Salonika to Athens, but

when we left this to wander round the Peloponnesus and across the Gulf of Corinth to Delphi, the hard white roads were more natural to the country, reflecting the same poverty we had seen in Yugoslavia.

In Turkey the roads are straight and dusty, flowing over the plain to Istanbul, and across the banded colours of the Anatolian plateau. In the Middle East war and oil have made roads that exist only for swift transport, strips of tar vibrating in the heat, lying direct as pipelines across the desert, unshaded even in the towns until you reach Persia. In that country every village is a cluster of trees, and the journey begins to fall into stages, under the influence of the old caravans whose halting-places, the walled caravanserais, now decay to their original mud except where they are still used by the army or a bus company. In Persia and Afghanistan they tell you the distance to the next town in the number of caravanserais, or days' journeys the camels and horses would have taken. The car's speed is ignored; not that much speed can be made, for in Persia there are no machines to grade the appalling corrugations and fill in the potholes made by the tankers and trucks that haul all the goods from Teheran to the city of Meshed, where the Imam Reza and Harun al Rashid are buried. From Herat to Kandahar and Kabul there is scarcely a bridge standing, and in summer you cross one dry creek-bed after another beside the ruined arches of the bridges that were washed away in the spring torrents.

The Afghans are proud of the badness of their roads and bridges: they say it is a sign of their country's independence, and that in Pakistan and India the good roads and bridges are all a result of British domination. The traveller does not complain when politics favour him, especially when he enters the Khyber Pass from Afghanistan and runs smoothly down to Peshawar through the intricate patterns of road, caravan track and railway line, all superbly engineered by the



All photographs by the author

"For the traveller on a long road, strangers are friends."
In a village like Pristina in Moslem Yugoslavia the blacksmith's work is still centred on the horse and cart. Yet Tewfik Selim not only repaired a broken spring but also regarded the author and his wife as guests, instructing his beautiful daughter-in-law to entertain them in his house. He worked for ten hours without food, as it was the month of Ramadan, and when asked what he should be paid, held up his hands and answered: "Whatever you please"



British. But India is too big to be reduced to order by its roads; you still have to cross many rivers by perilous little ferries, or wait in a narrow gorge till a landslide is cleared; and when you bump painfully over the cotton soil of Hyderabad you might be back in Persia or Afghanistan. In Australia the distances are as great, but the car is the normal transport for a whole people. The road ends as it began in England, amongst traffic policemen, lights at intersections, and organized bus-tours.

On a long journey you expect to find odd contrasts and customs, different conceptions of civilization, changes in dress and language. It is the similarities that startle you, and often please and reassure you when it is only the road that seems to be holding your journey together. Nature separates people by valleys and seas, and often determines their national character as a result, but the natural patterns themselves are repeated. In the harshness of the Montenegrin mountains you find tranquil little valleys that might be in Switzerland, a green field, a quiet stream, a hillside dark with pines, until you see barefooted women

standing by windowless houses that look like pigsties. In Afghanistan a dry watercourse through the eroded hills, the sun generating a malevolent heat in the dust, makes an Australian seem close to the burnt centre of his own country. The sun itself is contrary, for there seems no relation at all between the pale eye that gleams on London and the fire in the sky that dries Baghdad.

Birds, being more interested in the sun than human beings, regard travel as normal and unrestricted. One remembers the loveliest birds most easily, such as the bee-eaters which lined the road from Yugoslav Macedonia to India, or the hoopoes which began almost as soon and also ended in India: the bee-eaters calling softly as they flashed turquoise in their dipping flight, the hoopoes quieter in their pale bronze and barred feathers, proud of their heraldic crests which legend says were given to them by King Solomon.

As we crossed from Baghdad to the Persian frontier the day was so hot that the bee-eaters were made stupid by the sun and, as if they had their eyes shut, flew into the car to

Near Salonika the storks have forsaken roof-tops and established themselves in a dead tree. In Australia a ringbarked tree will suddenly flower softly with the pink and grey of a flock of galahs







(Opposite) *The Christian religion is glorified in the 11th-century mosaics of the church at Daphne in Greece, where Christ appears as Ruler of the World, surrounded by sixteen prophets.*
(Above) *In the Universal mosque in Herat, Afghanistan, the mosaics show no figure, human or divine, but the subtle colours of their geometry pay as noble a tribute to belief as those of Daphne*

kill themselves. At another border, between Persia and Afghanistan, there were great gaggles of white-fronted geese feeding or resting on the thorny plateau. They had no water there, unlike the clouds of pink Siberian storks that rose from a lake in central India as the Maharajah who owned it piloted us amongst the islands in his launch. There had been villages of storks in Macedonia, and near Salonika one huge dead tree had been populated by storks, and made to bear life again.

The flowers are more sharply divided by time than the birds, for in summer in such countries as Persia there is no sign of the flowers that have delighted travellers in the spring. Only the villages contradict the barren statements of mountains and desert, for a Persian village is still as it was in the old miniatures, where a painter whose brush was the hairs of the neck of a young white kitten made feathery poplars grow by a fountain in close plantations.

Flowers are as near to these peoples as they are to us; a Yugoslav girl will tuck a red flower in her hair, behind her ear, and a Turkish or an Afghan soldier will take the same flower, carnation or rose, and thrust its stem down the barrel of his rifle.

Yugoslavia had the greatest profusion of flowers of any of the nineteen countries through which we drove. It had the advantage of spring, but no other country packed the wild sides of the road so tightly with flowers that we might have been driving between the herbaceous borders of an English garden. High blue campanulas and pink convolvulus following the contours of the rocks, wild snapdragons and broom, gentians on the cold passes, poppies amongst the barley and the olives; the Yugoslav women, rivalling the poppies, wear red kerchiefs that fall low as flowers as they work stooping in the fields. The same fires burning in the green flashed in the evening as we reached the high valley that



Man adjusts himself to the landscape. A peasant and his wife live in one of the deserted monastic cells in the rocks of Urgub in Turkey: on a ledge of the valley she reaps a tiny crop by hand

leads to Kabul, the capital of Afghanistan, for there the women and children dress in scarlet cloaks as they move in the gentlest of all greens, that of a young rice-field.

Children, of course, are born international. Their games seem to come straight from this first period of unity. In France the children play hop-scotch on patterns they chalk in the streets; so do they in Afghanistan and India. In Victorian England hoops were the rage for long-haired little girls, as they are now in Yugoslavia and Turkey. And as for dolls, it would be hard for any child to choose between an Italian Lenci doll and one from India.

For children of all non-mechanized countries, a car is the most entertaining of all travelling toys, especially if it has a chromium headlight in which a face can be mirrored in a crazy convex distortion. In England or Australia children have to pay in a fun-fair to see

such grotesqueries; the poorer children of Dalmatia or the Hindu Kush get the same pleasures for nothing, by clambering on to the mudguard of your car. While the children amuse themselves, the women driving goats and donkeys curse you as they laugh, and even if the car is standing still, they tell you to go slower while their animals go faster and faster, leaping into the distance away from the road.

Animals serve much the same purposes in every country, though national differences in the treatment of them are often vital. Keeping a pet rabbit in your garden is no way to endear yourself to an Australian; Italians care more for children than dogs; Moslems remember the Prophet's fondness for cats; and Hindus revere the cow. The Indian bullock is as much a strain on a motorist's nerves as the Italian ox, for both these slow, heaving creatures draw their carts home while their



He also adapts it to his needs. (Above) This landscape in Afghanistan supports only a few gazelles. Yet the water that erodes the bare earth in the spring can be caught. (Below) In Kandahar there are orchards by a cool canal. Nearby, huge dams now being built may alter the whole rhythm of Afghan life





Often destruction is the landscape's human note. A heedless spark can loose the bushfires which leave only charred stumps and pale trunks, as with these giant Karri trees in Western Australia

masters sleep in the shade of an umbrella or a tuft of leaves, and naturally they prefer the middle of the road, which is comfortably level. No amount of honking will shift them, and the so-called driver, even if he hears the noise of a horn, relates it to nothing more urgent than a dream. The slowness of an ox's hooves teaches you another meaning of time.

Neither the mystery of travel nor the remoteness of far countries has any meaning for the great commercial empires of America and Europe. Their products, petrol, tyres, tinned foods, cigarettes, magazines, textiles, confront you in their ugliness wherever you go. Even in an Afghan rest-house, in Herat or Girishk, there is a glass case inside the front door containing all those dreary substances which an English housewife is doomed to carry home from the grocer's: pastry-mix, custard powder, dried milk and bottles of brown sauce. Those colourful Eastern bazaars and *souks*, in Istanbul, Aleppo, Baghdad or Lahore, are jammed with the same cheap stuff that crowds the shops in Birmingham or Brisbane.

At such places and times the individualities of the world seem lost, and travel becomes a hopeless attempt to break away from what is familiar.

One is, however, only jaded temporarily. The commercial is not all. And what restores one's faith in humanity, and in travel itself, is that the traveller stopping by the way is privileged to find that all peoples will treat him as a human being to whom they can be kind and hospitable. The Yugoslavs, poor as most of them are, will share all the food they have with you, and pour you out the last of their precious liqueur. A Persian, an employee of the disputed oil-company, will spend all his holiday helping you when your car breaks down, even though it carries a GB plate showing its country of origin. An Afghan will offer to send you a coat of karakul skins to Australia, even though you assure him that it is unlikely you will ever be able to pay for it. "What does it matter", he says, "are we not friends?" It is quite true. For the traveller on a long road, strangers are friends.

Cooperation and the Small Farmer

by ARTHUR C. RICHMOND, C.B.E.

In an article published in our March number Mr Richmond discussed, in relation to national needs, the economic and social difficulties of the small farmer, who cultivates more than half the farms of England and Wales. As Chairman of the Land Settlement Association, Mr Richmond is specially qualified to estimate the part which cooperation can play in helping to resolve these problems

In a previous article I contended that the economic and social conditions of many small farms leave a good deal to be desired and that the extension of the practice of cooperation could do much to improve both. Why, then, has cooperation not developed to a greater extent in this country, and what are the measures necessary to encourage it? The English farmer is often said to be peculiarly resistant to cooperation and this is given as the main reason for its slow development. But the Englishman's capacity for cooperating with his neighbour can hardly be less than, say, that of the Dutchman or the Frenchman: it would indeed be difficult to find peasants who cling more firmly to their independence than the Dutch or French; yet in both countries (and particularly in Holland) the cooperative movement has achieved remarkable success. Moreover, our whole history surely refutes the view that we in this country, as a people, are bad cooperators. In no country in the world has the practice of working together voluntarily for a common end become so intimate and extensive a factor in national life.

No; if the development of cooperation among the farming community has been somewhat dilatory, the reason must be sought elsewhere. Even as it is, the volume of business transacted in Great Britain through agricultural cooperative societies has been growing rapidly and now amounts in value to over £100,000,000 a year. Nevertheless there is no doubt that the benefits to be derived from cooperation are insufficiently understood and appreciated by very large numbers of small producers; and the difficulty of extending it is too often over-emphasized by those who rather lightly assume that the English farmer cannot or will not cooperate. The problem really is to decide how to overcome a certain measure of apathy and to further the energetic efforts that are already being made by the Agricultural Cooperative Association in England and similar bodies in Wales, Scotland and

Northern Ireland.

In almost all countries in Europe, in the Dominions and in the U.S.A. cooperation in buying and selling, in processing agricultural produce, in the use of machinery, and in other branches of work has developed either hand-in-hand with, or on the basis of, a system of agricultural credit. In all those countries farmers combine together to raise funds from which loans can be made on easy terms for buying additional equipment, or cattle and other stock, or for many other purposes. Although the details of these schemes differ they have two things in common: the funds from which the advances are made are provided either wholly (as in Holland) or partly (as in France) by voluntary subscription; and they are administered by a body consisting in the main of representatives of those who subscribe. When once a start has been made in practical cooperation of this kind, the stage is set for cooperation in other activities such as the provision of a cooperative dairy, a fruit or vegetable packing station, a machinery pool and so on. For instance the whole business of cheese-making and the marketing of fruit and vegetables in Holland has been developed on the basis of a cooperative credit scheme of this kind.

CREDIT FACILITIES

In England we have no corresponding organized system of credit of which the small man can make use. There is an Agricultural Mortgage Corporation, financed from public funds, which lends money for capital improvements, but it cannot advance short- or medium-term loans for working capital. The banks supply a measure of help but the small producer cannot always obtain the accommodation he needs since he is unable to offer adequate security. That there is a need for a credit scheme has been implicitly recognized by the provision in the Agriculture Act which became law in 1947 for loans to be made on



J. Thompson, from *The Field*

The foundation of good marketing is high quality production. One of the estates of the Land Settlement Association, the produce of which is jointly marketed through a central packing-station

the recommendation of County Small-holding Committees of up to 75 per cent of the working capital needed by men who become small-holder tenants of County Councils for the first time. The scheme does not apply to existing tenants and only provides for initial loans to be advanced in order to enable men to set up as small-holders. Thus an established tenant of a County Council who may need a loan to overcome temporary difficulties, or to extend his undertaking, cannot obtain one by this means, nor is it available for small-holders who are not tenants of County Councils.

A good deal of evidence was collected before the war to the effect that many small farmers were greatly hampered by the lack of satisfactory credit facilities. The extent of the need is not accurately known, but in this respect the experience of the Land Settlement Association, as described in its reports, is suggestive; and since I shall refer to it again, a brief account of the way the Association is organized will not be out of place. It was formed in 1934 under the Industrial and

Provident Societies Acts for the purpose of establishing on the land men who had been thrown out of work during the severe industrial depression of the 1930s. When war broke out all unemployed persons were reabsorbed into industry. The Government then directed the Association to accept only applicants with agricultural experience and possessing some capital of their own. The initial experiment of the Association was financed on the principle of a contribution by the Government through the Development Commission of £1 for every £ subscribed from voluntary sources. Subsequently the whole cost of creating estates was borne from public funds. When the Agriculture Act of 1947 became law the property of the Association was vested in the Minister of Agriculture, but the Association remained a voluntary body responsible for managing the estates on a commercial and self-supporting basis. The Association administers a number of estates, most of which consist of small-holdings grouped together, producing market-garden crops, poultry and pigs. Pro-

duction is confined to these three forms; but the emphasis on any one of them varies in accordance with the conditions prevailing in the area where the estate is situated. The holdings vary in size from two to ten acres. Marketing and buying are organized centrally and other services including machinery pools are provided for the tenants.

The Association's experience shows that the amount of working capital required by a tenant to finance one of its holdings fully is today between £1200 and £1800. Of all tenants who have taken up holdings since 1939, 75 per cent have taken up loans for over half the total amount they required. In other words not one of those applicants could have obtained a holding had he been unable to borrow money for working capital. To finance a small farm of about fifty acres based on, say, arable and dairy farming the amount of working capital might be estimated at not less than £2000; and if the experience of the Land Settlement Association is any guide, many technically well-qualified men as well as agricultural workers cannot today hope to be able to become farmers on their own account

On these estates the holdings are of about five acres each, equipped with glass-house, piggery and poultry-house. Their grouping facilitates the collection of produce for market and other services

owing to their inability to find the necessary finance.

This suggests two things :

- (i) that recruiting into the productive side of agriculture—into the actual ranks of farmers—is seriously hampered by the lack of adequate credit facilities; and
- (ii) that many small producers are prevented from developing the productivity of their holdings to the full for the same reason.

INDEPENDENCE AND COOPERATION

There is, however, a real psychological difficulty to be overcome in providing the more extensive application of cooperative principles. The man who becomes a small-holder does so because he wants intensely to be independent. To him cooperation presents itself as a form of limitation on his freedom and for that reason is suspect. Moreover when he first sets up in business he is beset with anxiety. He has invested the whole of his hardly-acquired capital in his holding, and a bit more, and does not yet know if he will make a living. He is used to a regular weekly wage

Leslie F. Thompson, from The F...



and it may take both him and his wife some time to adapt themselves to the irregularity of an income which varies from week to week and also to recognize exactly what receipts can be regarded as income and what as capital. In these circumstances he hesitates to believe that the sacrifice of a measure of his liberty by active membership of a cooperative society will result in greater financial benefit to himself. He tends by his very nature to have great confidence in his own capacity to do the best for himself and, mistaken as he probably is, it takes a great deal to convince him that any organization can do better for him than he can do by his independent efforts.

Even when he has joined a cooperative society, the same spirit of independence tempts the small-holder not to be consistently loyal in selling through it. This temptation arises partly from eagerness to miss no opportunity of making a little profit, and partly from the many opportunities which exist in our industrialized and populous country to effect an odd sale here and there at a particularly good price. This temptation is greater in England than in other countries and has always been reflected in financial weakness among English cooperative marketing organizations. While, therefore, it is a simple matter to present convincingly to a small-holder the advantages of buying what he requires through a cooperative society, it is far more difficult to do so in respect of the marketing of his produce. He cannot help on occasion being tempted by the offer of a better price to sell to dealers and others, or to sell them his best produce and only send his inferior produce to the cooperative society.

COMPULSION IN MARKETING

This difficulty is recognized by the Agricultural Marketing Acts, which provide that once a majority of those interested in the production of a particular commodity decide that it would be to their advantage to adopt a marketing scheme, the minority are compelled to acquiesce. Compulsion has been found to be necessary if prices are not to fluctuate excessively and stability is not to be undermined by the action of those who are unwilling to forgo personal bargaining or to accept a reasonable price-level instead of the chance of an occasional scoop. But the essence of cooperation is that it should be voluntary and, consequently, if cooperative methods are to be more extensively applied means will have to be devised for reconciling the work of Cooperative Societies with that of any Marketing Boards which are already in existence or may be

established. Provision already exists in the Act relating to Marketing Boards for collaboration between them and the societies, but so far very little attempt has been made to harness the initiative and independent spirit represented by the voluntary movement to the regulatory powers of the Boards.

The whole question of the part which co-operation can play in the campaign for increasing the production of food and raising the standard of marketing has recently been the subject of enquiry. A distinguished American economist, Professor Mehren, has examined at the invitation of the Ministry of Agriculture the organization and methods of the cooperative movement in Great Britain. His report should by now be available for consideration and important decisions are likely to be made in the light of his recommendations. Perhaps the most controversial issue to be considered is whether, in the national interest, producers—particularly those concerned with market-gardening and fruit production—should be compelled to market their produce through prescribed channels. The circumstances in which the business of horticulture is carried on in this country differ greatly from those in which the grower in Holland or France, Italy or California operate. The Dutch, the French and the Italians depend either mainly (as in the case of the Dutch) or largely (as in that of the French and Italians) on export, as do also the growers in California whose principal market lies far away in the east of the United States. Thus in Holland and California close organization based on some form of compulsion is a condition of economic survival.

It can be argued that, in view of increased competition from abroad and of the urgent need for efficient marketing to meet it, fruit and vegetable marketing in this country ought to be subjected to stricter control and some steps in this direction have already been taken in respect of particular products—as for instance tomatoes. Here, again, the experience of the Land Settlement Association is relevant. The tenants have their own national association and all matters affecting their interests are the subject of consultation. In effect, the representatives of the tenants are fully associated with the framing of financial and production policy. On each small-holding estate, of which there are eighteen, there is a committee consisting in equal numbers of representatives of the tenants and of the management and presided over by the manager.

Under the Association's scheme participa-



Illustrated

All farmers encounter problems arising from the sudden appearance of disease among crops as well as stock. On Land Settlement Association estates, the estate manager is often called upon for advice in solving them. Here a small-holder obtains it with regard to the crop in his Dutch lights

tion in organized marketing is a condition of tenancy. It is obligatory. While no-one as a rule responds happily to compulsion, this particular obligation has come more and more to be recognized by the majority of tenants as a normal and necessary requirement, upon the observance of which their prosperity largely depends. To market all produce through the estate packing-station has, with the passage of time, become such accepted procedure as hardly to be called in question; unless, of course, inefficiency on the part of those responsible for the business of marketing results in unsatisfactory prices. But complete acceptance of the principle could not be guaranteed if the tenants themselves did not, through their representatives, take part in all decisions reached in regard to the methods to be followed; the kind of packing to be adopted; the choice of markets to which produce is to be sent. In effect, therefore, the scheme represents a combination of the voluntary with the compulsory system and places directly on the

producers themselves a considerable degree of responsibility for determining how, when and where their produce is to be marketed.

Perhaps in an adjustment on some such lines the solution might lie between cooperative marketing societies based on this voluntary principle on the one hand and Marketing Boards based on compulsion on the other. If whole-hearted support for a more efficient system of marketing is to be given by producers in general it is important that they should feel that within the orbit of marketing arrangements such as can be prescribed by a Marketing Board, the individual producer can have a real say in, for instance, the control and management of the packing-station to which his produce goes.

To return to the question of credit. It has been suggested that better provision of credit for working capital is needed both to stimulate the flow of young and able men into the business of farming and to enable existing small producers to increase the productivity



Keith Wilson, from the Land Settlement Association



Keith Wilson, from the Land Settlement Association

Many implements of mechanized farming are costly to buy and uneconomic for a small producer to own. A central pool of machinery, such as the Land Settlement Association maintains to serve each of its estates, can overcome this difficulty. (Above) A power-pump spraying black-currant bushes with insecticide on a small-holding. (Left) A Ferguson steering-hoe hired by a small-holder from the pool to cultivate his land



Keith Wilson, from the Land Settlement Association

Propagating is a highly skilled operation on which the quality as well as quantity of future production depends. Organized services on the estates include (above) glass-houses devoted to the propagation of tomato and other plants for sale to tenant market-gardeners. The estates also provide central hatcheries to which the tenants can send their eggs for incubation. (Right) One of the staff determining the sex of chicks



W. F. Irving



Motors Ltd

Produce of all kinds is brought to the packing-station for preparation for market, thus ensuring a common high standard. (Above) Crates of lettuce, carefully graded and packed, being loaded up for despatch. (Below) Poultry collected from a number of holdings is dressed and packed at the station

Wilson, from the Land Settlement Association





Chichester Photographic Ser

On each of the Land Settlement Association's estates there is a hall where meetings of tenants are held to discuss important estate business with the manager and his staff. It is also the centre for such occasions as (above) a community dance or (below) an old people's party given by the Youth Club

Chichester Photographic Ser



of their holdings. If it is found possible for a scheme of that kind to be introduced as part of a national campaign to increase production, then it should be linked with action to promote the more extensive practice of cooperative methods. Cooperative societies will need funds to extend the facilities they provide, to finance new branches of work, to train staff. Moreover a well-established society engaged in supplying farmers with their requirements—feeding-stuffs, fertilizers, etc.—can serve as an effective medium for the administration of credit to its members, as has been abundantly proved by experience abroad. Nothing would help the development of cooperation more than for such societies to be recognized as an instrument for the administration of credit and, owing to their intimate knowledge of members, they on their side are in a strong position to handle credit with the maximum administrative economy.

THE AGRICULTURAL LADDER

The Agriculture Act of 1947 provided for the construction of a new ladder of advancement for the agricultural worker by imposing on County Councils the obligation to create small-holdings, not on a part-time basis, but of a kind that would yield a full-time living. Some initial progress has been made with the realization of this aim but the need to restrict capital expenditure has meant that progress is slow and meanwhile thousands of agricultural workers are abandoning the industry. Some of them can be presumed to be men who are ambitious but can see no hope of advancement beyond the status of a wage-earner. Those are men whom it would be in the national interest to retain in the industry and very possibly an appreciable number of those who now see no future before them would remain if the door were more widely opened through which they could pass into the ranks of producers on their own account. There can be little prospect of the provision of small-holdings under the Act of 1947 on a sufficient scale to afford hope to many men now employed in agriculture that they will be able to obtain a holding within a reasonable time. If, however, credit were available, not only for the applicant for a County Council small-holding but for any applicant possessing the necessary qualifications, and subject to reasonable safeguards, the agricultural industry might be greatly benefited by opening up a new source of recruitment both from among those who pass through agricultural colleges and those who now abandon agriculture for

lack of opportunity to climb the agricultural ladder. Equipped with adequate financial resources and supported by membership of a cooperative society such men might well bring a welcome spirit of enterprise and vigour into the farming community.

SUPPORT FOR THE SMALL-HOLDER

Small-holdings and small farms cannot but be a principal channel of entry into farming as a career. If they are to serve that purpose efficiently and make their full contribution to the production of food, they need the support which cooperation and a credit scheme can give. Furthermore, if we are to succeed in extracting the maximum quantity of food from our own land we need farmers who are ready to examine new ideas and apply the results of current research. But men cannot be expected to respond eagerly to new ideas whose whole energies are absorbed in the daily business, seven days a week, of working the soil, tending stock and finding a market for what they produce, with little prospect of earning more than a relatively meagre living at the end of it. Cooperation can relieve the producer of part of his burden, set him free to concentrate wholly on the business of production and enable him to keep in touch with new knowledge. With so high a proportion of the land in Great Britain from which our food is produced in the hands of small farmers, it is essential that the resources which cooperation can give should be more extensively and actively brought to their assistance.

Many men believe that by operating wholly on their own account they live more independently than if they were—even voluntarily—to submit to any restriction on their freedom of action. But this can be an illusion, for they may well be shackled in many ways that are none the less hampering through being invisible. The small producer's freedom can be restricted by onerous obligations to his agricultural merchant; he is dependent on the goodwill of a contractor to carry out his heavy cultivations and he is at a disadvantage in obtaining that service in competition with more important clients; he will be all too often short of capital. The small farmers who voluntarily agree to certain restrictions on their liberty and participate in ordering the affairs of the group of which they are members can enjoy a measure of economic stability and opportunities for social and other contacts largely denied to their freer fellows. Thus by curtailing some of their liberty of action they open for themselves the door to a larger freedom.

The Canary Islands

by ELIZABETH NICHOLAS

The deservedly popular travel articles contributed by Mrs Nicholas to the Sunday Times have led her readers to receive her advice with the greatest confidence. This will extend to her impressions of the "Fortunate Isles" for which, as the following article shows, she has a personal predilection. Her book Madeira and the Canaries is shortly to be published by Hamish Hamilton Ltd

WHEN I first visited the Canary Islands I knew nothing about them beyond a few scattered scraps of information of a very general nature. I knew, of course, that they belonged to Spain; that Las Palmas and Santa Cruz were large ports; I had heard of the Peak of Tenerife, and I had purchased, sometimes for what seemed unreasonably large sums, Canary tomatoes and potatoes from my greengrocer. I knew also that climatically they were more favoured than the British Isles and that many people admired greatly the Valley of Orotava. And that was about all.

On this first visit I flew to Las Palmas from Funchal, and for this reason, perhaps, I expected the Canaries closely to resemble Madeira; after all, they are separated only by 300 miles of sea. In this, though, I was profoundly wrong; never were islands so closely situated so utterly different, and the shock of this discovery acted as a goad to my curiosity. *Why* were the two archipelagos so completely dissimilar?

For the first time I gave close study to a large-scale map of the Canary Archipelago and saw that it consisted of seven islands named Tenerife, Gran Canaria, Lanzarote, Fuerteventura, La Palma, Hierro and Gomera. I saw, too, that they were so situated that they formed, in effect, a net cast across the sea route which skirts the north-west coast of Africa. At one point, Fuerteventura lies only sixty-odd miles from Cape Juby.

In this, then, lies the seed from which the history of the Canary Islands grew, and the reason why they have little in common with Madeira; early navigators round the coast of Africa could hardly fail to hit one of the Canaries and, in fact, they did so with a frequency which must, to the indigenous population, have been most tiresome. Madeira, on the other hand, was situated just off the beaten track; it lay awaiting discovery until the year 1420 brought to its shores the Portuguese sea-captain Zarco, lieutenant of Prince Henry the Navigator, who had sighted the

neighbouring island of Porto Santo the previous year.

It may sound foolish to suggest that an island, or a group of islands, can convey to the casual visitor a sense of long occupation, of ancient lineage; and yet this is the effect the Canaries had on me. Again, possibly, because I came there from Madeira; when Zarco landed on that island it was uninhabited by man or beast, and something of the atmosphere of aeons and aeons of lonely isolation still survives strongly in its hills and mountains. The Canary Islands, on the contrary, are lived in; that is the only expression which seems to fit the case.

I would emphasize that this impression was immediate; as I drove from Las Palmas to the Hotel Santa Brigida, which stands in the foothills of the great mountains, I felt myself back in the Near East, in the country I knew as Palestine: the same long, golden, rolling hills glistening fiercely beneath a mordant sun; the same crumbling, white-painted



A. J. Thornton

houses; the same vivid, lavishly splashed clusters of flowers; even piles of oranges beside the road. This was an atmosphere I knew and loved; whereas Madeira, which I had come to love too, was alien always.

Here, again, history might provide a solution. The very next day I started reading, with determined concentration, the books on the Canaries which I had brought with me to Madeira and had neglected in favour of idle contemplation of the sea from the lethargic comfort of a basket-chair. I realized, again for the first time, that the Canaries had indeed got much in them of Africa; and that their history had very ancient roots.

I learnt that there were references in Homer which might concern the Canaries; that they may have been known to Hannon the Carthaginian, about 600-500 B.C.; and that Juba, King of Mauretania, certainly landed on one or more of the islands about 40 B.C., a circumstance he reported to the Romans who named them the *Insulae Fortunatae*. He even established a factory for the extraction of purple dye from the orchilla plant; and this is thought to connect Fuerteventura and Lanzarote with Pliny's *Purpuriae*. It is right to add that scholarly authority is not unanimous on this point. In the year A.D. 150 Ptolemy drew his meridian through Hierro, which then marked the extreme limit of the known world, a distinction it was to hold for many centuries.

There is also evidence that many Arab navigators landed, at one time or another, in the Canary Islands and all this, I think, contributes to the ambience which they hold even today. The patina created by time and circumstance is of slow development, but it is also very strong and very difficult to dissipate.

Then again I discovered that the Canaries, unlike Madeira, had an indigenous population of very strong personality—the Guanches. A curious race, indeed, greatly addicted to fighting, which ultimately proved their undoing; their origin is, however, much disputed by experts. Some authorities hold that the first immigrants to the Canaries came from Egypt around 1400 B.C., basing the belief on certain references in Homer. It is at least interesting that the Guanches were one of the three nations known to have embalmed their dead, the other two being the Egyptians and the Peruvians. This gave me the idea of a *Kon-Tiki* expedition in reverse; but I was stayed by the circumstance that Peru lies on the western seaboard of South America.

A more commonly held view, I gather, is that the Guanches were derived from African stock, since their language and customs had a close affinity with those of the Berbers. I am, of course, unable to offer any opinion in this matter; it is a subject for experts.

A few days later I visited in Las Palmas the Museo Canario, which houses the finest collection of aboriginal Guanche remains in the world; the *pièces de résistance* were the mummies, which I found of somewhat gruesome aspect. The sewing, however, all done with bone needles, was of extraordinary fineness and precision. The curator was knowledgeable. "Of course," he said, "you know that when the Archipelago was opened by European penetration in the 15th century, the Guanches were living in the Stone Age?"

Indeed no; I had no idea. Nor, to be truthful, did I understand precisely what he meant. Further questioning, however, revealed that the actual state of development of the Guanches was no further advanced. They used fish-bones for sewing, cloth was made from vegetable fibre, their weapons were the sling, the club, the spear; they knew nothing at all about the use of metals. This backwardness on the part of the Guanches is very remarkable because they had suffered a number of invasions from the outside world; on the other hand, it seems that the Canaries did fall out of the news for about a thousand years; that is to say, from the days of Ptolemy until they were rediscovered by European navigators in the 14th century.

It is outside the scope of this article to give any detailed account of the conquest of the Canaries. Let it suffice to say that the 15th century was a very horrible one for the Guanches who refused to bow before the storm, preferring to resist to the last. I must, though, mention two names, because they crop up constantly, even today, in casual conversation with Canary Islanders—de Béthencourt and de Luzzo. Jean de Béthencourt was a Norman who conquered Fuerteventura, Lanzarote, Gomera and Hierro in the name of Henry III of Castile in the years 1402-1406. De Luzzo, nearly a century later, completed the task; he conquered La Palma in 1491 and Tenerife in 1496. Gran Canaria had been subdued in 1483, by which time the Canarios had been reduced to some 600 men and 1500 women and children; thus the whole Archipelago came under Spanish rule and has remained there ever since.

So much for the past, for the roots from which the modern Archipelago developed;



All photographs by Fernand Rausser

The curious Dragon-tree (Dracaena draco) is a native of the Canary Islands. The trunk and branches are smooth and there is no foliage beyond a sharp spear-like form of leaf from two to four feet long. Some Dragon-trees have attained to great dimensions: the famous tree of Orotava in Tenerife, blown down in 1868, was seventy-five feet high and some twenty-four feet across. It was calculated by Humboldt to be 6000 years old



One feature common to both the Canary Islands and Madeira—in most other respects so different—is the very elaborate terracing of hills undertaken in order that they may bear crops. The labour involved is herculean but it has brought to fruitfulness land which would otherwise be wasted. The terraces seen here lie beneath the great Peak of Tenerife

The Pico Viejo, a once violently active crater, which lies some 2000 feet below the summit of the Peak of Tenerife. The desolation and loneliness of this region is strikingly revealed here—a waste of lava, of volcanic ash, of many gritty, arid substances, streaked in winter by snow furrows. The colouring, however, is extremely diverse and beautiful



No-one can deny that there is poverty in the Canary Islands ; but poverty, where there is also sun, is seldom the hardship it is in cold, northern lands. This family can provide for itself all its essential needs : grain, wine, figs, potatoes. In the modern world the life led by these people might well be thought enviable as they work peacefully on their terraces





The dominant sex in the Canary Islands, as in Spain, is man. Unconsciously, the two figures shown here give substance to this assertion. The boy, confident and critical, is already possessed of a certain careless arrogance. The grandmother, decently clad in black, retiring and a little anxious, is—very properly—busy, even while she sits in the sunshine



Water is the key to wealth in the Canary Islands; where it exists land of immense potential fertility can be made to bear rich crops. Where there is a natural spring, its flow is stored in irrigation tanks and sold to surrounding land-owners for a good price. These tanks are of various shapes and, with the sun glinting on their surfaces, are one of the most pleasant features of the highly attractive countryside

Bananas are a very profitable crop, especially for large land-owners. They grow profusely on all irrigable soil up to an altitude of 800 feet, and the coastal belt of the north coast of Tenerife is heavily spattered with their blue-green, tattered leaves. One tree, one stem of fruit is the natural cycle; when the leaf is cut the tree is destroyed too. A sucker, however, is left that will carry on the good work





It is strange that the women of the different islands of the Canary Archipelago should vary so greatly in their looks; some islands seem to produce an abundance of very beautiful girls, others are less favoured in this respect. The smiling girl here is from the former group; she wears the customary palm-leaf hat, with a scarf draped beneath it. Perhaps her most striking feature is her expression of serene simplicity

and it was pleasing to me to discover how history confirmed my own immediate impressions. Since those first days in Las Palmas I have visited all seven of the islands, and will reveal that my first two loves are now Gran Canaria and Lanzarote. Tenerife, it is true, has the exquisitely beautiful Valley of Orotava, described by Humboldt as the most lovely sight his eyes had seen; and there is in its sun-stricken, flower-littered slopes and hillsides a richness which is rare and remarkable. Looking down on it from the *bellavista*, known as Humboldt's Corner, there is on one side a glistening, blue-green sea, on the other the massive, imperious, terrifyingly austere snow-covered mass of the Peak; beautiful, yes, indeed, very beautiful, but Gran Canaria has an atmosphere I find irresistible.

It is an island of immense contrast. In the north a wonderful, spacious, golden fertility: bananas, vines, figs, and other succulent fruits which grow on terraces spread across the foot-hills of stupendous mountains. These are, of course, a feature of nearly all the islands; the terracing, as in Madeira, is almost miraculous in its ingenuity, designed, as it is, to bring every possible yard of fertile land into production. Springs are tapped at source and the water—most cherished commodity—is stored in great tanks. It is a wonderful thing to stand on a hillside near Arucas (which is in the north of Gran Canaria) and look around at a great circle of these tanks whose surface waters reflect sharply the piercing rays of the sun.

That is the north. In the south of Gran Canaria there is the hot, lonely, immensely moving atmosphere of the Near East; here there is nothing of Europe, nothing. All is austerity, aridity, a landscape of rolling, tawny hills piling up against a background of savage mountains; a people wary, remote, withdrawn. Above all, it is a land from which life is wrested only by extreme concentration and travail; it knows nothing of ease, or luxury, or that which is false. In writing this I am not forgetting that in Las Palmas Gran Canaria has a port of first importance. It is part of its charm that Las Palmas has, as it were, been isolated; port, pleasure resort, commercial centre, Las Palmas is all three. But only a few miles beyond its margins, Gran Canaria, like Lanzarote, and Gomera, and Hierro, is austere and rugged.

Lanzarote is my favourite of the small islands because, like Gran Canaria, it has for me so close a resemblance to the Near East; if I appear to harp on this point I should explain that nine months I spent in Palestine,

Syria and Lebanon provided one of the happiest experiences of my life. Lanzarote has, too, an extraordinary volcanic area where blow-holes left from an eruption in the year 1733 are still hot enough to grill a chop more quickly than a gas fire.

This island and Fuerteventura—a great tomato-growing island—are administered from Las Palmas. La Palma, Hierro and Gomera come under the direction of Tenerife; they are also completely different from the first group, which lies nearest to the coast of Africa. All three, and La Palma in particular, have a green and almost pastoral atmosphere. In memory, I even think of them as being well watered, though this is not strictly speaking the case. Their forests do, however, attract moisture in a manner which is denied to Lanzarote and Fuerteventura.

Gomera—where several of the photographs which illustrate this article were taken—is a particularly pleasant island. It is, of course, remote and very much off the tourist track, although it can be reached overnight from La Palma by means of the comfortable inter-insular ships. At one time, however, it stood on much-used shipping routes; Columbus spent his last night ashore in San Sebastián, Gomera, before he set out to discover the Americas in the year 1492.

Today it is a lonely world, but a fruitful one. It produces great crops of bananas and vegetables, and in atmosphere it is remarkably lively. But perhaps the most unusual feature of Gomera is the extraordinary whistle-language by which country people can converse over distances of three or four miles. By using harmonies of a few notes only, they can convey to each other even complicated messages; they also warn each other of the impending arrival of tax collectors and other unwanted visitors.

Remembering the Canaries I remember, as is right, bananas flaunting their tattered leaves from the coastal plains; tomatoes, forcing their way towards fruitfulness in closely packed lines; potatoes, green and cool, sprouting from the red earth; oranges, and vines, and figs and chestnuts; a people kindly, dignified, lean with the whipcord hardness engendered by perpetual husbandry. I remember the wine which was known as Malmsey, and a sun which strikes hard and sharp and clean on the skin; and the Peak of Tenerife boldly outlined against a brazen sky.

I remember all these things; and I think perhaps the Romans were right when they named the Canaries the Fortunate Isles.

The Geography of Film-making

by ROGER MANVELL

The Royal Geographical Society recognizes the value of films as an aid to the promotion of geographical knowledge by showing them regularly, by encouraging teachers to discuss them with producers, and by giving support to their production. Dr Manvell, Director of the British Film Academy, initiates with the present article a series of which he explains the scope and purpose

FIFTY years ago the film had scarcely begun to make its impact on the public. Subjects occupying the screen for a few minutes only were being made in France, America and Britain in sufficient numbers and with sufficient regularity to reveal that a new industry and a new form of entertainment had both been born. The first curiosity shown by the public lay in the motion itself—people just wanted to see a picture which moved. Pioneers like George Albert Smith, who a few years ago showed me his early note and account books when he started work as a cinematographer at Brighton in 1897, were soon to turn pence into pounds simply because the public which had just come off the sea-front of Brighton were curious to see the sea-front in Brighton all over again on the screen, in other words, to test the experience of life itself against the illusion produced by the artifice of a machine. They dodged to avoid the hustling images of trains; they shouted at the people so unceremoniously portrayed before them. And they took a new kind of entertainment to their hearts, the travel films, these being sometimes shown in old railway coaches which were suitably rocked about to produce the sensation of a journey.

The early cinematographers like R. W. Paul in England (who sent his cameraman Harry Short to Portugal, Spain and Egypt as early as 1896) and the Lumière family in France (who sent two cameramen to Moscow in May 1896 to film the coronation of Tsar Nicholas II) began the great service of recording in motion-pictures scenes of life in many countries. They recorded them to satisfy the innate curiosity of human beings to spy on what the other fellow looks like and how he conducts his life. Today the face of much of the world is a commonplace to us—we see countless films reflecting with greater or less degree of accuracy the appearance of foreign peoples

and of their environment. In the sales catalogues of British films, published so liberally from 1898 onwards, you begin to find the travelogues spanning the world, with scenes from Constantinople, Japan, the Philippines, India and North Borneo listed alongside the conventional subjects like Paris or the Swiss Alps.

These collections of brief scenes (of increasing value now as records in those few cases where prints have survived) bear no signs of the artistry which was later to shape the technique of the film. It was to become an interpretative art when, some twenty years later, the American explorer Robert Flaherty discovered that he could best express his love for the friendly Eskimos of Hudson Bay through his beautifully-observed studies of them in motion-pictures. He went up into the snows as an explorer and came back an artist. He had discovered the first secrets of the interpretation of real people through the selection of their un-selfconscious movements, the silent revelations of personality against the background of an environment.

Here, then, is a contrast: between film-making as a mere technique, capable of satisfying a certain elementary curiosity by recording the superficialities of the foreign scene, but with few intrinsic advantages other than those of novelty and complexity over earlier human techniques of representation; and film-making as an interpretative art in which the artist, penetrating beneath the surface of life in his own or another country, uses the technique to throw fresh light on the essentials of that life as affected by geographical influences. "Geography", said Sir Halford Mackinder many years ago, "is the science whose main function is to trace the interaction of man in society and so much of his environment as varies locally." Within his definition film-making is a most valuable servant of geography.



All stills, except two, from the British Film Academy and the Roger Manvell Collections

Two approaches to national self-portraiture. (Above) In La Femme du Boulanger Raimu and other actors portray a group of wittily observed type-characters derived from French country life; whereas The Blue Lamp (below), a thriller about the London police, uses a fully authentic London background



Ealing Studios



Americans have always delighted in drawing upon their vigorous history in films which are often violently heroic. (Above) A scene from Brigham Young. (Below) Like many post-war films made in Italy Bitter Rice, about work in the rice-fields, reflects the true condition of contemporary Italian life





*An important part of Soviet production sets itself to reinterpret history from the Communist standpoint, as in (above) the storming of the Winter Palace from Lenin in October. (Below) The famous pre-Hitler German film *Mädchen in Uniform* attacked the militarist element in German education twenty years ago*





From their beginnings, Swedish films have used the incomparable beauty of Sweden's landscape as a background for subjects deriving directly from the people's life and legends. *Ordet* (above) centres round the working of a miracle in a small Swedish coastal village



Yugoslavia, though a newcomer to film-making, finds rich material in her traditions. The wedding scene (left) is from *Sofka*, a film which revives the past life of the peasantry

This aspect of film-making is to be the subject of a series of articles in *The Geographical Magazine*. I shall attempt only to state in outline the main points with which individual articles will deal and the principles by which their writers will be guided: first and foremost, that the geographical value of the film depends largely on its artistic qualities.

It is late in the day now to have to argue that the film is an art. Yet, in both its main branches, the presentation of actuality in the factual and documentary film and the presentation of fiction in the story-film, it offers a unique medium to the man capable of moulding its technical capacities to his own expression of life and character. It offers a close observation of people from real life or of the actor impersonating a fictitious character. Like the drama it can use the eloquence of spoken dialogue. Like the ballet it can interpret significant movement and the art of mime. It can bring for the first time in our history the intimate art of actor and actress before the eyes and ears of men and women in a dozen foreign countries at one and the same time. It can reinforce its action with the emotional emphasis of music. It can employ for artistic purposes the resources of natural sounds. And, above all, it can bring its audience close to the human face, our common face with its many racial variations, with its thousand expressions of vitality and emotion. It can rivet the eyes of the Surbiton housewife upon the face of the Maori woman.

In all these respects the artist who uses the film as his medium of interpretation is constantly discovering qualities which we may call indigenous. Even in the earliest days, with the camera used for little but record, the film in certain countries was beginning to reveal marked national characteristics. The first American Western film was made in 1903—*The Great Train Robbery*. Gallic style and invention appeared in the films of Méliès and Max Linder. The quiet homeliness, decency and humour of the British middle-class temperament were part and parcel of Cecil Hepworth's many films, such as *Rescued by Rover* (1905). As the film grew in range and stature as a medium of expression, so its national qualities became more apparent. Here was an art-form in embryo and, moreover, one which, packed in little tin cans, could bring the expression of one country to another and build up an international network of communication between people out to enjoy themselves.

By the middle 1920s the film was established in the first stage of its evolution as an

art. This was achieved at first jointly by France, Britain and the United States, a little later by Sweden and Italy and, finally, by Germany and Soviet Russia. Then into the melting-pot of Hollywood the film-makers of Europe poured, taking with them the characteristics of their several origins and making many curious hybrids before they succumbed to a single national pattern of film-making—the Hollywood motion-picture, which seems to us so completely an all-American product. Nevertheless, many Hollywood films are interwoven with strands from the national looms of Germany, France, Britain, Ireland, Scandinavia, Italy, Hungary and the Slavonic countries. It is fascinating to look for the qualities these emigrants have brought to some of the more interesting Hollywood films. They are apparent in the treatment of many of the films made by directors like Ernst Lubitsch, who left Germany for Hollywood in 1923, William Dieterle who also went early to America, and even Frank Capra, who went as a child to Los Angeles from his native Sicily.

A list of the countries in which film-making has for some time been indigenous (that is, countries in which a deeply national spirit has become marked during the key periods of film production) would in my own view be bound to include the United States, Great Britain, France, Italy, Germany, Sweden and Soviet Russia. Only Britain, for example, could have produced such films as *North Sea* (Harry Watt) or *Brief Encounter* (David Lean); only France *Le Jour se Lève* (Marcel Carné) or *Farrebique* (Georges Rouquier); only Russia *Earth* (Alexander Dovzhenko) or *October* (Sergei Eisenstein).

In the East, India and Japan have large and long-established film-making industries, but the films made there are almost entirely for local exhibition and have made no contribution as yet to the artistic expansion of world cinema. Japanese and Indian films certainly have interest for the student of life in those countries, but I doubt whether they have yet displayed the vitality of a true artistic expression of Indian or Japanese life, save for one or two isolated examples such as the Indian film *Kalpana* and the Japanese films *Rashomon* and *The Life of O'Hara*, which show the first impressive signs available to us in the West of an indigenous film art. In Egypt a smaller but very flourishing industry has existed for many years, making films for the Arabic-speaking peoples. Established industries are growing up in certain Latin-American countries, in Spain, Portugal,





*The development of the film in Eastern lands has not been uniformly successful. Chinese production has suffered from the upheavals of the past quarter-century: (opposite, top) a scene from a pre-Revolutionary film of life in Manchuria during the Japanese occupation. (Opposite, below) Since the war Japan has begun to make films suitable for international prestige exhibition which at the same time remain indigenous, like *Rashomon*, a story of crime set in a half-legendary past. India's large film industry produces fictional films which are highly conventionalized in a style of their own; but such sponsored documentaries as *Community* (above) have begun to show both to India herself and to the world the complicated picture of Indian life and the social problems she has to face*



National Film Library

Credit is due to some explorers for having recognized at a very early stage in the development of motion pictures the value of the film for enlarging the geographical record. Often they achieved more, presenting scenes to entrance the eye such as that above from 90 Degrees South, the film record of Captain Scott's expedition to the Antarctic (1910-13) made by Herbert Ponting as a member of Scott's party. The first explorer to become an important film-maker was Robert Flaherty. He preferred to interpret life in places which had escaped the impact of industrialization; though this impact, in its effect on the inhabitants of remote swamp-lands, was the theme of—



—(above) his Louisiana Story. The film of fact is now an established part of the educational system of many countries. Marangu (below) is a film encouraging the development of orderly village life, made by the British Colonial Film Unit with African assistance for the instruction of Africans



Finland and, on a very small scale, in Switzerland. Film-production is rapidly increasing in the constituent Republics of the Soviet Union and in the various countries now under the influence of Moscow—Poland, Hungary, Rumania, Bulgaria, Czechoslovakia, East Germany, China and North Korea. Film-making is also developed on a subsidiary scale for local exhibition in countries like Greece, Turkey, in some of the Latin-American countries and in the Philippines. To this record must be added the important state-sponsored documentary film-making of Canada and, on a much smaller scale, of Australia and New Zealand. Many countries, like Norway, Holland and Belgium, make a small number of documentary films, but rarely attempt the production of feature films.

It seems, therefore, that certain countries, either through the luck of participation in the invention of motion-picture apparatus or through possessing a natural flair for developing and exploiting its artistic and technical qualities, have shared in the true development of the film, and so expressed their national vitality and emotional feeling in many works of film art. These are the founder-countries and require individual study in this series of articles. Other countries have caught the habit of making films and, probably for the simple reason that audiences like to see films conceived in their own country and recorded in their own tongue, have established a film-production industry. But the films they make portray only the surface of their national lives, because no artist has yet emerged to make films which interpret the life of his native land. Other countries, yet again, have invited film-makers from abroad to assist them in the development of their industries. The Canadians owe to John Grierson the founding of the Canadian documentary movement, the best films of which have achieved a world reputation. Various Europeans, chiefly British, have assisted in the development of Indian documentary.

Another important movement, originating from Britain, is that of the Colonial Film Unit, the aim of which is not only to produce films for the Colonies but also to train the peoples for whom we are responsible to become their own documentary film-makers. I visited recently one of the Colonial Film Unit's training schools in Cyprus; it contained students from various parts of Africa as well

as from Cyprus itself; another school has carried out similar training for students in the West Indies. A British documentary film-maker also holds an appointment sponsored by UNESCO in Indonesia partly for the purpose of training Indonesian film technicians.

Exploration is the essence of every such film-making endeavour, for it is always human life and its background which is being explored in a new way. One should not, however, overlook explorers in the older, narrower sense of the word who have felt the need of the motion-picture camera to add to the records of their work. When they are also artists like Robert Flaherty their records will be doubly valuable. He had a great love for the simpler people who live remote from the hectic contemporary struggle of our civilization. He loved their dignity, their finely developed traditions, the direct relation of their life to their environment in the harsh Arctic or in the sunshine of the South Seas; and since his death in 1951 no-one has emerged to rival his achievement. But there have been other notable explorers and travellers with the cine-camera: Herbert Ponting who accompanied Captain Scott to the Antarctic, the Marquis de Wavrin, Léon Poirier and F. S. Smythe. The films they have brought back from their expeditions are of great ethnological and geographical value. Even the very amateur efforts of the cine-photographer on the *Kon-Tiki* expedition resulted in a film which is drawing large crowds in many parts of the world to see the adventures of the raft navigated across the Pacific by these courageous travellers.

Our series of articles will attempt to survey and evaluate the work of all these kinds of film-makers, whether they be artists interpreting the lives of their own countrymen or visiting film-makers interpreting the lives of peoples foreign to them, or simply explorers enlarging the geographical record. All these people, in one way or another, recognize the vivid qualities of observation which the motion-picture camera engenders in those who are prepared to sharpen their eyesight in its service and learn to use it with sensitivity. Their work has already built up a living record of the world as our generation has experienced it. Each year more is added to the great library of films at our disposal. It is a unique heritage both for us and for our descendants.